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BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO: BES: TB-B

January 27, 1931.

From: Assistant Chief Engineer
To: J. E. Allen, Principal Asst. Engineer
Subject: ANNUAL REPORT

I am forwarding herewith material to be considered for the 1930 Annual Report. The said material consists of statistical reports covering the activities of the sixteen Survey Districts and the Registry Division, and showing in detailed figures the amount and variety of work done in each unit for the year. Also a written report from each District Surveyor containing the outstanding features of his District activities for the same period. I have indicated on each report the more important details, and the ones which I consider particularly worthy of mention. If you will let me know the amount of space to be covered, I will be glad to rearrange this information in a more suitable manner.

Certain work done by the City Planning Division is also worthy of mention. During the past year a number of City Plans and Maps were completed for the Mayor's Office, including a report of a street and traffic survey in the Central City area, with particular reference to the Delaware River Bridge approaches. This unit ~~has been~~ cooperating with the Regional Planning Federation and the City Planning Commission, and many plans and studies have been made for these planning bodies. In addition, detailed studies are now being made of major City Planning Improvements, such as the Parkway, the Roosevelt Boulevard, Spring Garden Street Extension, and Delaware Avenue widening and extension, for the purpose of determining the ultimate cost of such improvements and their influence upon the territory through which they pass. This is a phase of City Planning investigation that has never been seriously undertaken before, and the results of the studies now under way will undoubtedly be a valuable contribution to the researches now about to begin to discover ways and means of financing the City Plan of the future.

An important matter with respect to the activities of the Board of Surveyors is also worthy of notice. During the past year, the Board has been cooperating with the City Planning Commission in the work of planning and replanning certain sections of the City. The Surveyors of the Districts covering the Central City Areas are now employed in making field surveys in connection with the active planning work now under way of the Pennsylvania and B. & O. Railroad Terminal Improvements, the Philadelphia Post Office Improvement, the Delaware River Bridge Approaches, and the University Avenue system.

Thomas Buckley
Assistant Chief Engineer.

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BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



January 20th, 1931.

REPLY AND REFER TO:

TO: THOMAS BUCKLEY, ASS'T CHIEF ENGINEER,
BUREAU OF ENGINEERING & SURVEYS.

FROM: SECOND SURVEY DISTRICT.

SUBJECT: DATA FOR ANNUAL REPORT

The following activities are to be reported by the Second Survey District during 1930.

LOCAL ADMINISTRATIVE CENTERS.

Within a distance of 10 blocks there were located two District Survey Offices, Highway District Office, a Branch Tax Office, a Health Center, and a Magistrate's Court. These various offices serve the local community, but not so efficiently as they could if all were located in one building.

A curb setter to do work in the 36th ward is required to visit first the Highway District Office, then the Survey Office, then the Tax Office, and again the Survey Office in order to complete the preliminary arrangements for a comparatively small job. It was thought that if these activities could be brought together, that eventually the two Survey Offices could be combined into one.

In order to further sub-divide the districts in the North Eastern section of the City, which have been burdened by rapid extension of street development and building activities, two new districts in that section were created, and the Second District was combined with the former first district to cover South Philadelphia.

The lack of loan bills in recent elections has delayed construction of the proposed local administrative center, and neither of the Survey Offices being large enough to accommodate the entire force, it has been necessary to continue them separately under one head. Early erection of a suitable building housing the various municipal services would be of much advantage to the community.

HOYT STREET SEWER

During the year, another large sewer system has been started at the southeastern end of the City. This sewer consists of two sections, each 7'x9' and two of 7'x10' each. The smaller ones have been extended from the Delaware River to a point in Pattison Avenue,

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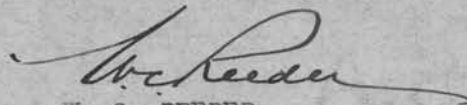
January 20th, 1931.

TO - THOMAS BUCKLEY, ASS'T CHIEF ENGINEER - - -2

where they are to be connected with the future Southeastern Sewage Disposal Works as an effluent conduit. The other two pieces extend nearly to Swanson Street. This construction will allow the railroad companies to build their numerous tracks connecting the terminal yard with Delaware Avenue and their proposed local produce terminal. The total length constructed was 3892 feet.

25TH STREET PAVING.

During the year 25th Street has been paved from Ellsworth Street to Mifflin Street, under the supervision of the Grade Crossing Division. This is a wide cartway, carrying the elevated structure of the Pennsylvania Railroad Company on columns, and the paving represents the consummation of a portion of the work which was planned sixteen years ago, and the physical construction started during the war.



W. C. REEDER,
SURVEYOR & REGULATOR,
SECOND SURVEY DIST.

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

TWELFTH SURVEY DISTRICT

108 SOUTH 40TH STREET

REPLY AND REFER TO: BES-TB-B.

January 23, 1931.

From: Twelfth Survey District.

To: Mr. Thomas Buckley

Assistant Chief Engineer.

Subject: DATA FOR ANNUAL REPORT FOR YEAR 1930.

In connection with the general work of the district for the year 1930 may be mentioned the surveys and plans relative to the revision of the City Plan caused by the Philadelphia Improvements of the Pennsylvania Railroad, covering along the section South of Market Street, West of the Schuylkill River, particularly the widening of Market Street, the West River Drive or Schuylkill Avenue West, the viaduct on 30th Street and the changes in Chestnut Street Bridge approach and the widening of 32nd Street and making it a high level street extending as at present on the City Plan, from Market Street to South Street abutting the University Palestra and Stadium.

Also, the surveys in connection with the revision South of South Street to University Avenue covering the proposed 32nd Street and the revision of Vintage Avenue, so as to provide proper traffic outlets from the new Convention Hall and the relocation of University Avenue from Woodland Avenue to the Bridge.

G.L. Martin
G.L. Martin,

Surveyor & Regulator,

Twelfth District.

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BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO:

January 23rd., 1931.

From: Surveyor and Regulator, Third District

To: Mr. Thos. Buckley, Assistant Chief Engineer & Surveyor
Bureau of Engineering and Surveys.

Subject: Annual Report of Special Work done in 1930.

The most important public improvement under construction in this district is that known as "The Pennsylvania Terminal Improvement."

This office has made plans for the Board of View for the change of grade of Arch Street from 19th Street to 148' east of 21st. Street, and of Cuthbert Street 19th Street to 20th Street.

Change of grade of 19th Street from Market Street to Commerce Street and of Commerce Street from 19th Street to 306 feet eastward therefrom. Change of grade of 21st Street from Arch Street to Walden Street and of Walden Street from 21st Street to 22nd Street, and change of grade of 17th Street from Arch Street to Cuthbert Street.

All the changes are in connection with "The Pennsylvania Terminal Improvement." The changes of grade for which these plans were made have been partially completed.

Field surveys and studies have been made along the east bank of the Schuylkill River from Walnut Street to The Parkway and of The Parkway near the Art Museum for the location of, and grades for the proposed Schuylkill Ave. East which is to be constructed under the B. & O. Terminal improvement agreement.

The ordinance of Council of April 23rd., 1929 authorized the revision of The lines and grades of Pennsylvania Ave. from 24th Street to Girard

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO:

Avenue.

This office made the necessary field surveys for revising the lines and grades over the section covered by the ordinance, and prepared the City plan for the section east of 28th Street. This part of the plan can be confirmed in the early part of 1931.

Steps railings and other physical features on Spring Garden Street, from East of Broad Street to 23rd Street have been located in preparing a study plan for the widening of the cartway between the above mentioned points.

The construction of the Main Relief sewer through Fairmount Park from the Schuylkill River to Fairmount Ave. was started in July 1930.

There has been constructed approximately 500' of 9' x 8' re-inforced concrete sewer, 175' of 7' x 7' re-inforced concrete sewer, 70' of special channel sewer and 125' of special fabricated steel pipe. About 16000 cu. yds. of material has been excavated.

In tunnel there has been about 550' lin.ft. of excavation completed and 130' of invert laid.

W. H. H. Ogden Jr.
W.H.H. Ogden Jr.,

Surveyor and Regulator
Third District.

6-1930



BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX

REPLY AND REFER TO: BES:AZH

Sixth Survey District,

3017 "F" Street

January 21, 1931

No. 225 11/22/31		FILING SYMBOL	
BUREAU OF ENGINEERING & SURVEYS			
FOR YOUR ATTEN.	ac		
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From: A. Zane Hoffman, Sur. & Reg. 6th District,

To: Thomas Buckley, Asst-Chief Engineer, Bureau of Engineering and Surveys,

Subject: DATA FOR ANNUAL REPORT FOR 1930.

In answer to your request for data for the annual report covering the activities of this district during the year 1930, the following is submitted:

RANDOLPH BOULEVARD

This year marked the placing on the City Plan of Randolph Boulevard from Vine Street to Spring Garden Street. The ordinance was approved July 14, and the plan was confirmed on October 6th. The placing on the City Plan of this boulevard is the first definite step taken to relieve the congestion of the City streets caused by the traffic flow to and from the Philadelphia-Camden Bridge over the Delaware River.

The planning of this boulevard was carefully considered by this bureau, and is, in its judgment, the most desirable and practical first step to be taken toward the relief of bridge approach congestion. The plan consists of a viaduct street of the total width of 104 feet with overhead crossings of Callowhill, Willow and Noble Street; Wood Street and Buttonwood Street being dead-ended at Randolph Boulevard to prevent grade crossings. The result is a high speed traffic way from Vine Street to Spring Garden Street, a distance of approximately 1800 feet, without any crossing or interruption to traffic for this entire length.

Shortly after the plan was confirmed, the City Planning Commission published its report of recommendations for a comprehensive plan of the City of Philadelphia. In this report under the heading of "Delaware River Bridge Approaches" the Randolph Boulevard project is endorsed in principle. The City Planning Commission, however, suggests the establishment of a traffic circle between Race and Vine Streets on the axis of Randolph Boulevard and recommends that the viaduct feature of Randolph Boulevard be extended Southward to the suggested circle.

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BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



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REPLY AND REFER TO: BES:AZH

Sixth Survey District,
3017 "F" Street

January 21, 1931.

If this recommendation is adopted a revision of the grades of Randolph Boulevard will be required so that the boulevard will over-pass Vine Street instead of crossing at grade as provided by the present confirmed plan.

IMPROVEMENT OF ARTERIAL HIGHWAYS.

During the year estimates were prepared for the use of City Council of the cost for improving each unimproved block of the portions of Castor Avenue and Aramingo Avenue within the boundaries of this district. These estimates included the assessable and non-assessable costs for grading, paving, sewers and water pipe. The purpose of these estimates was to place in the hands of City Council detailed statements of the amounts which will be required to be appropriated in order to improve these arterial highways or any portion thereof.

STREET REVISIONS FOR READING COMPANY IMPROVEMENT AT FRONT AND SPRING GARDEN STREETS.

On April 7th, the plan was confirmed, striking from the City Plan Noble Street and Nectarine Street, each from Front Street to New Market Street, Hope Street from Nectarine Street to Spring Garden Street and widening of Produce Avenue from Front Street to New Market Street. This revision was to permit the Reading Company to make extensive alterations and additions to its freight yard. The physical improvement is now in progress by the Reading Company, and consists of the demolition of the dwelling houses abutting on the vacated streets and the construction of modern freight handling facilities on the additional area thus acquired.

STREET REVISIONS - DELAWARE AVENUE AND LAUREL STREET.

During the year, lines and grades were given for the physical work of revising the lines of Frankford Avenue, Laurel Street and Canal Street in accordance with the revision plan which was confirmed by the Board of Surveyors on July 15, 1929. The completion of this work has materially

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BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



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REPLY AND REFER TO: BES:AZH

Sixth Survey District,
3017 "F" Street

January 21, 1931.

improved the intersection of Frankford Avenue, Delaware Avenue and Laurel Street and includes a very desirable widening of Laurel Street and of Canal Street.

REPAVING.

Attention is called to the fact that the extensive repaving of streets which has been a feature of the work in this district for about ten years past was continued during the past year. Approximately seven miles of streets were repaved at a cost in excess of \$500,000.00. The work of preparing plans and estimates and furnishing lines, grades and certificates for this work formed a considerable part of the year's work in this district.

SEWER CONSTRUCTION.

The lines and grades furnished for sewer construction during the past year exceeded the amount usually done annually by this district. Lines and grades were furnished for approximately 14,000 feet of sewer at a cost of about \$330,000.00.

.....

Attention is called to progress on the following improvements which have been started or completed in this district during the past year, the details of which should be reported by the Bridge Division and Sewer Division respectively --

FRANKFORD CREEK LOW LEVEL COLLECTING SEWER.

Lines and grades were furnished for the Frankford Creek Low Level Collecting Sewer extending from the grit chamber in the Northeast Treatment Works on the line of Luzerne Street, East of Richmond Street to a point in Frankford Creek, East of Frankford Avenue, a distance of about 6,000 feet at a cost of \$275,000.00.

MAIN SEWER IN CASTOR AVENUE.

Lines and grades were furnished for the construction

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BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



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REPLY AND REFER TO: BES:AZH

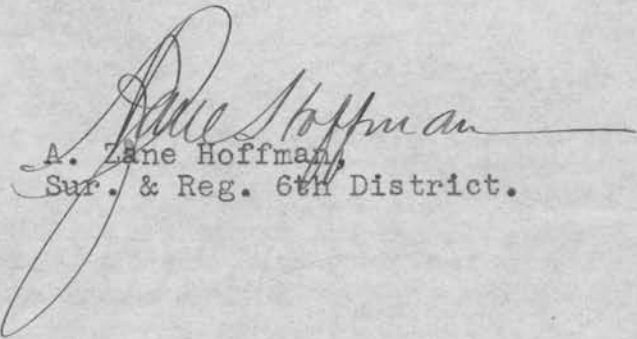
Sixth Survey District,
3017 "F" Street

January 21, 1931.

of main sewer in Castor Avenue from Aramingo Avenue to Frankford Avenue, a distance of about 2200 feet at cost of \$100,000.00.

MASCHER STREET BRIDGE.

Contract was let and work started on the bridge on line of Mascher Street over the tracks of the Richmond Branch of the Reading railroad. The cost of this bridge will be \$96,296.30, of which the city will pay \$65,000.00.


A. Lane Hoffman,
Sur. & Reg. 6th District.

10-1930

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS
CITY OF PHILADELPHIA

ELEVENTH SURVEY DISTRICT
4421 LANCASTER AVENUE

REPLY AND REFER TO:

BES GWH:MMF

January 21st, 1931.

From: 11th Survey District

To: Thomas Buckley, Esq., Ass't Chief Engineer,
Bureau of Engineering and Surveys.

Subject: SOME SIDELIGHTS CONNECTED WITH THE
ANNUAL REPORT FOR THE YEAR 1930.

The year 1930 witnessed completion of the widening, regrading, drainage completions and improvement for the marginal highway between Montgomery and Philadelphia Counties, known as City Avenue and extending from the Schuylkill River Bridge westward to Monument Road. This highway has always been intensely used although the grades had been very uninviting and dangerous to ordinary traffic. In addition, the paved roadway space did not exceed 20 ft., which made the passing of stalled western bound traffic very hazardous in such confined area.

A study was made of these conditions covering quite a period and the final outcome was the adjustment of the grades so that in no case would there be more than 8 ft. fall to the 100 ft. It was also found necessary in these studies to re-locate the Neill Drive which is a roadway through Fairmount Park, connecting City Ave. with the Falls Bridge. The cost of this improvement which slightly exceeded \$120,000. was borne in almost equal parts by the City and the Township, and the present condition of the Road requires but 7 minutes during high traffic days from Ridge Avenue to Monument Road, where under the former conditions it required about 25 minutes. This magnificent highway is a source of much convenience and pleasure to the motorist and minimizes accidents, besides there is now a place for the pedestrians to walk. Much favorable comment on this improvement was advertised through the columns of the public press with many illustrations; this beginning has caused the general public to demand an extension of this work.

Another dangerous sections along this highway is the portion between Belmont Avenue to Bryn Mawr Avenue, on which there is a very dangerous traffic grade crossing at Conshohocken Avenue and a still worse condition on the present narrow bridge over the Schuylkill Valley Railroad, due largely to bad grades and low visibility. Studies of these conditions which have occupied considerable time are almost completed and a tentative study reveals the necessity of underpassing Conshohocken Avenue under City Avenue, widening the bridge over the Railroad at Bala Station, and extending the approaches to this improvement to Belmont Avenue, which is another main intersecting artery. The

11-1930

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

ELEVENTH SURVEY DISTRICT

4421 LANCASTER AVENUE

-2-

REPLY AND REFER TO:

BES GWH:MMF

January 21, 1931.

data and plans for this proposed improvement, the cost of which will be borne by the Township and City in conjunction, will shortly be presented to the Bureau of Engineering and Surveys for discussion and revision.

There are other acute conditions along City Avenue, but lack of funds will cause their postponement to the future.

The main sewer on 73rd Street and Morris Park between Lebanon Avenue and City Avenue, was completed late in the season. It was the intention to originally project this sewer along the line of 73rd Street, but the owners would not dedicate although it was a big improvement for their land as no developments could be made in these tracts without the proposed drainage. The original estimate for this sewer was \$50,000., but the sewer after several preliminary surveys was finally located by this office through Morris Park to the required terminal and the cost of the work was less than \$39,000, due to the economical location of this drainage. It is now possible to extend this drainage westward to the Haverford Road section and eastward to the Green Hill Farm section, bringing many acres into possible development, besides there are now Ordinances pending in the Council for the drainage of Haverford Street between Malvern Ave. and City Ave., the distance of approximately 1/2 mile, which is the only unimproved portion of this thoroughfare remaining to be paved to connect up with the Northern boundaries of the City paving on said street with the concrete road at the City Avenue terminal, extending far into the adjoining County.

In the early part of the year, 30th St. from Market St. to Arch St., and Arch St. between 30th St. and the West River Drive and West River Drive from Arch St. to Market St. were placed upon the confirmed City Plan as part of the highways required in and adjacent to the new Pennsylvania Railroad Terminal on the West Bank of the River. Previous to this City Planning, it had been necessary to locate and to tie in with existing street systems the new bulk-head line of the Schuylkill River as designed by the Secretary of War. The surveys for these works were extremely intricate as the section was covered by very large buildings and there was considerable marshland, which made the work very tedious. These lines have since been marked out and the bulk-head is in course of construction by the Bureau. The City Planning Commission has recently made public its comprehensive plans and this office is now engaged in projecting out these studies upon existing plans and their connection there with. These plans, whilst largely for the future are very extensive in their scope and not only make revolutionary changes in the present City Plan, but also extend into other adjacent Districts, which require special surveys for their consummation, which are now in progress.

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BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

ELEVENTH SURVEY DISTRICT

4421 LANCASTER AVENUE

REPLY AND REFER TO:

BES

GWH:MMF

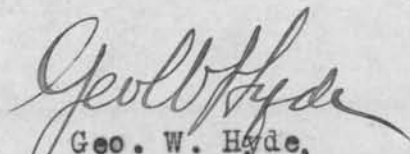
-3-

January 21, 1931.

It has also been my privilege during the past year to have been a member of the Committee of the Board of Surveyors in the studies of the Delaward River Bridge approaches, their relationship to the present City street system and the study and inquiry into other possibilities of affording an easy flow of traffic through the City highways and across its rivers.

In addition to the above surveys for studies of connecting City Avenue with School Lane, the Ridge and other tributaries into the Roosevelt Boulevard are in progress.

The above report is respectfully submitted for your consideration and particular care has been exercised to exclude therefrom the daily routine work connected with the drainage, repaving and paving and improving of the existing highways and the aid and assistance rendered to the developers and improvers of the vacant ground and construction of houses thereon.


Geo. W. Hyde,
Surveyor & Regulator,
11th District.

13-1930

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



January 21st, 1931

REPLY AND REFER TO: BES: TB-3
WM. F. WINGATE, Surveyor
1428 GLENWOOD AVE.

From: Surveyor and Regulator, 13th Survey District.

To: Mr. Thomas Buckley, Assistant Chief Engineer,
Bureau of Engineering and Surveys.

Subject: DATA FOR ANNUAL REPORT FOR YEAR 1930.
(IMPROVEMENT OF HUNTING PARK AVENUE)

The improvement of Hunting Park Avenue from Clearfield Street to Ridge Avenue is the completion of another link in the Lincoln Highway across the northern section of the City and eliminates one of the worst roadway conditions ever existing in Philadelphia.


Roosevelt Boulevard and its continuation, Hunting Park Avenue, is the main artery of through traffic from the north and east to all points west and south without passing through the central City. This improved highway terminated at Clearfield Street, and was connected with Fairmount Park and the East River Drive by a 33 foot wide lane with an 18 foot wide macadam pavement with steep grades and sharp bends, making this section one of the most dangerous roadways in our City.

Under an ordinance of Council dated June 12th, 1926 \$250,000 was appropriated for this improvement, and under ordinance dated December 30th, 1927 the improvement was authorized consisting of an 80 foot and 110 foot wide highway from Clearfield Street to Ridge Avenue, a distance of 2100 feet, and work was started May 1st, 1930.

This work necessitated the removal and reintering of 264 bodies from the Mount Peace Cemetery, the removal of 42000 cubic yards of excavation, the construction of sewers and underground public utilities conduits, the construction and reconstruction of retaining walls, and the paving and curbing of the roadway.

Provision has been made for an underpass under Ridge Avenue, thus eliminating one of our most dangerous crossings, and this will be constructed in connection with the improvement of the one remaining link from Ridge Avenue to Fairmount Park, a distance of 1000 feet.

The improvement when completed will provide a continuous roadway 3-5 mile in length and 54 feet in width without a traffic crossing.


W. F. WINGATE
Surveyor and Regulator,
13th Survey District.

14-1930

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



January 24th, 1931

REPLY AND REFER TO: BES: TB-B

From: Ninth Survey District,

To: Mr. Thomas Buckley,
Ass't. Chief Engineer.

Subject:- DATA FOR ANNUAL REPORT FOR YEAR 1930

Reply to your letter of Jan. 16, 1931:-

During 1930 the activities in this office consisted largely of public improvement work. Private survey work has been unusually diminished. One outstanding feature is the practical completion of the Low Level Wissahickon sewer to the northern limits of the City. This sewer, started 48 years ago with the authorizing Ordinance of March 30th, 1883, has reached this point with its meanderings along the Schuylkill River & Wissahickon Creek, a distance of over 10 miles, and the latter 1/5th of the distance being built during the last 2 years.

Another feature has been in the great amount of time spent in studies & calculations in connection with the elimination of grade crossings in Germantown & Chestnut Hill. Two main highways namely, Willow Grove ave. & Mermaid Lane are nearly completed with the construction of Bridges for carrying the railroad over the streets. Considerable areas in connection with the grade crossing work have been revised grades changed, & new streets placed on the City Plan.

Further steps have been made in the projecting of Lincoln Drive to its northern limit. One grading contract was completed & a very lengthy piece through the Institute for the Deaf has been dedicated.

Although private work in this District has been comparatively small for the year, we have been unusually busy & almost overwhelmed with Public Improvement Work.

City Plans with the accompanying time spent in studies, legal procedure and necessary field work, have been made for widening, relocating, striking off & placing on of streets made necessary to keep pace with increased traffic & building developments.

John T. Campbell
John T. Campbell,

Surveyor & Regulator,

Ninth District.

15-1930

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

EIGHTH SURVEY DISTRICT

4444 MAIN ST., MANAYUNK

REPLY AND REFER TO:

January 23, 1931.

From: Surveyor and Regulator 8th District

To: Thomas Buckley, Esq.,
Assistant Chief Engineer and Surveyor,
Bureau of Engineering and Surveys.

Subject: DATA FOR ANNUAL REPORT FOR YEAR 1930.

In reference to your circular letter of the 16th inst., relative to the above subject, I report:

Important construction work in this district has been carried on as follows:

The work on the Manayunk Elevated, eliminating nine grade crossings along the Philadelphia, Germantown and Norristown Railroad, has been continued during the year and will be completed in 1931.

Work on Henry Avenue bridge over the Wissahickon Creek was begun March 17th 1930, and at the end of the year was 44 per cent completed. Preliminary estimates as to the cost to the City of fully improving this avenue, between Walnut Lane and Hunting Park Avenue, were prepared in conjunction with the 13th District.

The extension of the Wissahickon High Level Cut-off sewer was started during the summer of 1930. This work includes the construction of an inverted siphon under Lincoln Drive and the Monoshone Creek and a tunnel with a length of about 1000 feet and greatest depth about 130 feet. This work will probably be completed during the Spring of 1931.

A great portion of the time of the district force has been occupied with revision work. The revision of the lines and grades of Umbria Street, from Parker Avenue to Shawmont Avenue, a distance of about a mile, was confirmed during the year. This revision reduces excessive grades and flattens sharp curves. Deeds of Dedication were obtained for all ground required by reason of the change of line. The revision of City Plan No. 303, covering about 140 acres, was completed during the year and confirmed. This revision includes the plotting of a new street, 80 feet wide, connecting Manayunk and Roxborough. This street, named Glen Avenue, will form a link in what will be a most important highway route connecting Belmont Avenue in West Philadelphia with Ridge Avenue in Upper Roxborough via the new Green Lane bridge over the Schuylkill river, Main Street, Leverington Avenue, Umbria Street, Glen Avenue, Wigard Avenue and Ridge Avenue. The maximum grade along this route, between Green Lane bridge and Ridge Avenue at the Montgomery County line, a distance of four miles, is 6%, and the cartway for a distance of $3\frac{1}{2}$ miles is not less than 52 feet, and for the remaining distance not less than 36 feet.

16-1930
K. W. Grandlund
Surveyor and Regulator 8th District.

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



January 22, 1931

REPLY AND REFER TO: ABE:F

From: Tenth Survey District
To: Mr. Thomas Buckley
Assistant Chief Engineer
Subject: DATA FOR ANNUAL REPORT

In reply to your letter of January 16, 1931,
I beg to submit the following:

During the past year the physical opening and improvement of Frankford Avenue from Bridge Street to Cheltenham Avenue was accomplished at a very low cost to the City. After several conferences with the Cedar Hill Cemetery Company, an agreement was reached whereby the Cemetery Company agreed to dedicate a five (5) foot wide strip on the southeast side of Frankford Avenue, and also agreed to waive all claims for damages provided the City would construct the necessary retaining walls and lay the concrete footways. Through these negotiations the City saved at least \$9,000.00.

In June 1930, a contract was awarded for the construction of the Lower Frankford Creek Low Level Collecting Sewer at a cost of \$650,000. This sewer is now under construction and when completed will enable the City to intercept the sewage which at the present time discharges into Frankford Creek.

A handwritten signature in cursive script, reading "Amos B. Engle".

AMOS B. ENGLE
Surveyor & Regulator
10th District

17-1930



ENGINEERING AND
BUREAU OF SURVEYS

DEPARTMENT OF PUBLIC WORKS
CITY OF PHILADELPHIA

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BUREAU OF ENGINEERING & SURVEY		
FOR YOUR ATTEN.	AC	
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DATE		SENT TO

FIFTH SURVEY DISTRICT
4713 N. MASCHER STREET

REPLY AND REFER TO:

FROM: Surveyor and Regulator
Fifth District

TO: Mr. Thomas Buckley
Ass't. Chief Engineer & Surveyor

SUBJECT: REPORT OF ACTIVITIES OF THE FIFTH SURVEY
DISTRICT DURING THE YEAR 1930.

During the year 1930, due to the depression in real estate, the activities of the Fifth Survey District were confined mostly to street improvements and revision work.

General Street Improvements

The year just past marked the completion of the grading and improving of the approaches to the bridge on Rising Sun Avenue over Tacony Creek, thus opening up a main traffic artery which has been closed for a period of approximately two and one-half years. The cost of this improvement was approximately \$100,000.00.

A bridge was constructed on the line of Cayuga Street over the North Pennsylvania Railroad, between Fifth Street and Sixth Street, the street graded and a temporary roadway paved.

The widening of the bridge carrying The Roosevelt Boulevard over the North Pennsylvania Railroad was completed, permitting the laying of tracks on the line of Wyoming Avenue over the bridge, opening the way for the laying of tracks from Fifth and Wyoming Avenue to Broad Street as a feeder for the Broad Street Subway.

A bridge on the line of Olney Avenue over the New York Short Line has been almost completed. The necessary plans for the grading, sewerage, paving and improvement of Olney Avenue were completed from Front Street to

Rising Sun Avenue. This will permit the extension of the Olney Avenue trolley line as another feeder to the Broad Street Subway.

Work was started on the construction of three bridges on the line of "B" Street under the Fairhill Railroad, the Connecting Railroad and the Oxford Branch of the Pennsylvania Railroad, between Venango Street and Erie Avenue. The building of these bridges and the improvement of the street will open the way for a main traffic artery extending from "B" and Allegheny Avenue to Whitaker Avenue and The Roosevelt Boulevard.

Work was started on the construction of a bridge over the Newtown Railroad at Second and Bristol Streets. The completion of this bridge with the paving of the approaches will open Rising Sun Avenue as another main traffic artery running to the Northeast.

During the year, approximately six and one-half miles of sewer were constructed. Along the more important of these was the construction of a main sewer in Tabor Road, from Tacony Creek to Marwood Road, furnishing an outlet for branch sewers, draining about one hundred and fifty modern dwellings which have been built for a period of five years and have not been provided with the necessary underdrainage.

Branch sewers were constructed in "G" Street, from Ramona Avenue to Hunting Park Avenue, and from Erie Avenue to Venango Street, completing the underground work in this street between Venango Street and Wyoming Avenue. Plans have been made for paving all the unpaved portion of this street, which will provide an eighty feet wide traffic artery over one mile in length.

Nearly all of the sewers constructed were in territories which were partially or wholly built up, providing underground drainage in place of the old wells.

During the year 1930, a preliminary survey was made for the extension of the Upper Frankford Creek Low Level Collecting Sewer and Connections in and along Frankford Creek, from a point East of Frankford Avenue to Wyoming Avenue, about one and one-fifth miles in length. The contract for this collecting sewer has been awarded, and the construction of the sewer will practically collect all sewage now discharging into Frankford Creek, between Frankford Avenue and Wyoming Avenue.

City Planning and Revision

During the year 1930, the revision of the City Plan in the area bounded by Front Street, Cheltenham Avenue, Rising Sun Avenue and Champlost Avenue was completed, and the plan was confirmed by the Board of Surveyors on October 20, 1930. This plan supersedes a plan which was confirmed in this section nearly sixty years ago.

The plan provides for the placing on the City Plan of Godfrey Avenue from Front Street Eastward, connecting with Adams Avenue from Rising Sun Avenue Westward, both eighty feet in width, thus completing the plotting of a through traffic street extending from Bethlehem Pike, in the Northwestern section of the City, to Delaware Avenue, on the river front, a distance of approximately eleven miles.

This plan also places on the City Plan Cheltenham Avenue, a boundary street between Philadelphia and Montgomery Counties, eighty feet in width, completing the plotting of another crosstown artery of the width of eighty and eighty-five feet along the Northern boundary of the City, from Willow Grove Avenue Eastward to Newtown Avenue, a distance of approximately five miles. This was made possible through the co-operation of the Commissioners of Cheltenham Township in giving forty feet of this street on the Montgomery County side of the City Line.

Suggestions

I would suggest in the near future the opening of the unopened portions of Godfrey Avenue, between Stenton Avenue and Adams Avenue, and the opening of Adams Avenue, from Godfrey Avenue to The Roosevelt Boulevard, in order to provide a through traffic street from Bethlehem Pike to the Frankford District, as no such street now exists in this section of the City.

Also the opening of the unopened streets surrounding the new Olney High School, which has recently been constructed with a cost of nearly \$3,000,000.00, so that the paving may be completed surrounding this school.

Also the opening of Second Street, from Hunting Park Avenue to Rising Sun Avenue, including the intersection of Rising Sun Avenue and Bristol Street, as the construction of the bridge recently started at this location can not be completed until the street is legally opened.

January 22, 1931.

Another improvement badly needed is the grading and paving of Rising Sun Avenue, from American Street to Wingohocking Street, as the necessary sewers have been constructed, and the bridge is under construction. The completion of this approach to the bridge will open up a much needed traffic artery from Luzerne Street Northeastwardly, relieving the present traffic congestion on Fifth Street at the intersection of Wyoming Avenue.

Jos. F. Delany.

Jos. F. Delany
Sur. and Reg., Fifth District

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO:

From: Surveyor & Regulator, First District.
To: J. H. Neeson, Chief Engr., Bureau of Engineering & Surveys.
Subject: ANNUAL REPORT FOR 1930.

The First Survey District, in its new location, created by Ordinance of Council of December 31, 1929, became effective July 1, 1930, as directed by that Ordinance, and is composed of a portion of the former Fourteenth and Sixteenth Districts.

It is bounded by Cottman Avenue, Roosevelt Boulevard, Bensalem Avenue, Grant Avenue, Welsh Road and Philadelphia-Montgomery County Line, and includes within its boundaries Burholme Park, Fox Chase, more than one-half of Pennypack Park and extensive areas for residential development.

The close of the year 1930 finds the following to be outstanding in the work in the District:

The Revision of Lines and Grades of portions of City Plans No. 346 and No. 347 which comprise the Fox Chase section.

These plans, when established in reality, will be a distinct betterment for this Community, more especially since they eliminate the two remaining railroad grade crossings in the Northeastern section of Philadelphia, viz., Oxford Avenue, north of Hartel Avenue and Rhawn Street east of Oxford Avenue.

The completion of contracts for Country Road Improving of thirteen streets make better conditions on streets where dwellings exist and will be additional inducement for further home construction at an early date.

The Improvement Plan of Cottman Avenue, N. Y. Short Line R. R. to Elm Avenue. This project has been pending for some four years, and, after numerous conferences between this Bureau, Bureau of Highways and Commissioners of Cheltenham Township, the final agreement has been reached on this plan. The execution and completion of this contract is quite imminent. With a length of about one-half mile, it will widen and improve an important and heavily travelled traffic artery extending across country from North Wales Road to the Delaware River. This street, formerly Township Line Road, was opened 33 feet wide in 1734.

Two Main Sewer contracts, viz., Glendale Avenue, Horrocks Street to Castor Avenue, a length of 1360 feet, and Horrocks Street, Glendale Avenue to Bustleton Avenue, a length of 2100 feet, the major portion of which was done in 1930, will be completed in January, 1931. These sewers provide immediate outlet for branch sewers in numerous intersecting streets, thereby creating better sanitary conditions, since there are no other existing sewers. The extension of the sewers in the near future will make for greater betterment and will be additional incentive for rapid development of home sites.

Geo. F. Kohler
Geo. F. Kohler,
Sur. & Reg. 1st Dist.

22-1930

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

SIXTEENTH SURVEY DISTRICT

6000 RISING SUN AVENUE

REPLY AND REFER TO: BES: TB-B

January 21, 1931

From: Sixteenth Survey District.

To: Mr. Thomas Buckley, Ass't Chief Engineer and Surveyor,
Bureau of Engineering & Surveys.

Subject: DATA FOR ANNUAL REPORT FOR YEAR 1930

OXFORD AVENUE, from Roosevelt Boulevard to Cottman Avenue, a total distance of 11,150 feet (over two miles) was legally opened to it's full width on the City Plan of 70 feet by Ordinance of City Council approved July 15, 1929.

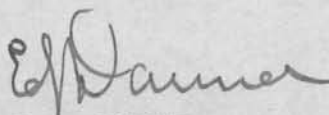
In 1930, Oxford Avenue was improved as follows:
Grading, Sewers and Paving from Hellerman Street to St. Vincent Street, a distance of 4522 lin. ft.

Grading, Sewers and Paving from Roosevelt Boulevard to Summerdale Avenue, a distance of 1671 lin. ft.

Sewer from Summerdale Avenue to Comly Street, a distance of 770 lin. ft. The Grading and Paving of this stretch are under contract to be done in 1931.

This improvement is of importance as Oxford Avenue is a main traffic thoroughfare leading from Frankford to Lawndale, Burholme, Fox Chase and beyond into Montgomery County. The portion improved lies between two main distribution points, Oxford Circle on the Boulevard and what was formerly known as the "Five Points", the intersection of Oxford Avenue, Cottman Avenue and Rising Sun Avenue.

There still remains to be improved between these distribution centres the portion of Oxford Avenue, between Comly Street and Hellerman Street, and St. Vincent Street to Cottman Avenue, two portions aggregating about 4200 lin. ft.


E.J. DAUNER,
Surveyor & Regulator,
16th District.

23-1930

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO: BES: TB-B

January 21, 1930.

From: Fourth Survey District
To: Mr. Thomas Buckley,
Assistant Chief Engineer
Subject: DATA FOR ANNUAL REPORT FOR YEAR 1930

The Fourth Survey District was organized and began operations on July 1, 1930, since which time it has been chiefly occupied in surveying and stoning City plans with an occasional farm survey as set forth in the statistical report.

412 Acres of confirmed City plans have been laid out on the ground and made ready for the stone monuments, 27 of which were planted prior to the first of the year

The activities of the Fourth District in directions other than City planning and the surveys incidental thereto have been at a minimum. The development of property in this section has come to a stand still and contracts for public works have been scarce--but one having been received in the six months of this district's existence, however, the important work of the district is not that of property development and public contract work but that of preparing City plans over this vast area and having them ready when the pressure of development, both private and public, reaches this section.

The area covered by the district is approximately 16.43 square miles including 1.85 square miles of City property, of which only 3.65 square miles has been covered by City plans and these are scattered throughout the district.

Surveys will be started as soon as possible with a view to preparing some of these plans in the sections where improvements will most likely come first.

Jos. C. Barnard
JOS. C. BARNARD
Surveyor and Regulator
Fourth District

24-1930

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



BES: TB-B

REPLY AND REFER TO: WWB:AMS

January 21, 1931.

From: 14th Survey District
To: Mr. Thomas Buckley, Assistant Chief Engineer,
Bureau of Engineering & Surveys
Subject: DATA FOR ANNUAL REPORT FOR YEAR 1930.

The following are the outstanding activities of the 14th Survey District during the year 1930.

The American Telephone and Telegraph Company is constructing an underground conduit from Boston, Massachusetts to Richmond, Virginia. Four miles of this conduit was constructed in Frankford Avenue from Poquessing Creek to Cottman Street, thence continuing southward along Frankford Avenue in the 10th District. Lines and grades were furnished by this office for this conduit and consultations held with the Board of Highway Supervisors relative to the best location for the conduits and manholes.

Contact was made with the Regional Planning Federation through Mr. Clement B. Webster and primary and secondary roads were planned through Bucks County together with their connection with main traffic arteries of the City of Philadelphia. A personal investigation of the various roads was made prior to this and I understand these roads have since been accepted by the Executive Committee of the Regional Planning Federation.

Reports on ordinances for the revision of City plan 312 and 323 have been held in abeyance pending the final adoption and report by the Regional Planning Federation.

The revision and stoning of City plan 278 and 282, bounded by Frankford Avenue, Robbins Avenue, Torresdale Avenue and Unruh Street, has been started and is now in progress.

Preliminary estimates were prepared for the much needed improvement of Frankford Avenue from Welsh Road to Grant Avenue. This involves the raising and construction of a bridge on the line of the Bustleton Branch of the Pennsylvania Railroad over Frankford Avenue; the construction of a roadway bridge on the new alignment of Frankford Avenue over Pennypack Creek; a removal of the car tracks to the centre of the street and the necessary grading, paving and curbing of Frankford Avenue.

William W. Blankley

William W. Blankley,
Surveyor & Regulator 14th District.

25-1930

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO: BES: TB-B.

January 22, 1931.

From: 7th Survey District

To: Mr. Thomas Buckley
Assistant Chief Engineer and Surveyor

Subject: Data for Annual Report for year 1930.

In reply to your letter of January 16th, requesting data or other contributions to the report of district activities for the year 1930, I beg to submit the following information.

During the past year considerable work has been done by the district forces upon the preparation of plans preliminary to the construction of the proposed Metropolitan Airport, sea-plane base and rail and marine terminal located at the Hog Island site. The combined area of the project as now proposed including acreage formerly allocated for the present municipal airport and ground now a part of the site of the proposed Southwest Sewage Treatment Works consists of approximately 1179 Acres of which approximately 488 Acres are proposed to be allocated for airport purposes, 79 Acres for a sea-plane base and 611 Acres for a rail and marine terminal.

Three plans have been prepared by the district office as follows:

- (a) A plan showing allocation of airport, sea-plane base, rail and marine terminal and industrial sites.
- (b) A plan showing topography, existing buildings etc. upon the site.
- (c) A base plan showing ties to existing street system, base lines preliminary to the establishment of bulkhead lines, possible leaseholds, and proposed line of Island Avenue extension.

A topographical survey and plan has been made of the site of the old Fort Mifflin on the Delaware River. Because of long historical tradition associated with this site it has been thought desirable to preserve the site of the old fort as a national shrine and accordingly a detailed survey has been made of the fort and approximately 25 Acres of surrounding territory with this end in view.

Surveys have been made and tentative study plans are now being prepared for the proposed Industrial Highway Route No 762. It is proposed to utilize Lindbergh Boulevard as now upon the city plan for a portion of this route.

Sectional city plan No 378 bounded by 90th Street, Back Channel, Bow Creek, County Line and Tinicum Avenue has been confirmed by the Board of Surveyors and virtually completes the street plans in the low lands of the 40th Ward.

Frederick T. Thorpe, Jr.

Frederick T. Thorpe, Jr.
Sur. & Reg., 7th Dist.

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

FIFTEENTH SURVEY DISTRICT

1627 CHURCH LANE

REPLY AND REFER TO:

January 21st, 1931

From: Fifteenth Survey District

To: Mr. Thos. Buckley, Ass't. Chief Engineer
Bureau of Engineering and Surveys

SUBJECT: DATA FOR ANNUAL REPORT FOR YEAR 1930

In reply to your letter of January 16th, 1931, I wish to advise you that there has been no major accomplishments in this District during the year 1930. The activities have been confined mainly to City Contract Work and there has been nothing sufficiently outstanding to warrant a detailed description.

George T. Shegog
George T. Shegog,
Surveyor and Regulator,
15th District

27-1930

ANNUAL REPORT FOR THE YEAR 1930.

Bridge Division, Bureau of Engineering & Surveys

During the year the following contracts were completed:-

O.K. RHAWN STREET BRIDGES OVER PENNYPACK CREEK - At the beginning of 1930 the contract for the construction of the two reinforced concrete bridges over Pennypack Creek was 99% completed. A contract for grading the approaches had also been entered into and was 82% completed. During the year the final payment was made on both of these contracts. In addition, a contract was entered into for Surface Drainage on the bridge approaches. The total cost of the two bridges was \$364,142.94, and for the approaches was \$58,799.66. The limit set for the contract for drainage work is \$22,000.00. The road has been opened to traffic since January 1, 1930, and the drainage work, which is now in progress, will not interfere to any extent with the use of the road. The completion of this project has opened Rhawn Street from Lexington Avenue to Rowland Avenue, making a through connection from the Roosevelt Boulevard to Frankford Avenue. This road had been closed to traffic for several years on account of the deterioration of the old wooden viaducts over the stream, which had become unsafe, and which had been condemned by the Highway Bureau.

RISING SUN AVENUE BRIDGE OVER TACONY CREEK - At the beginning of 1930 the Rising Sun Avenue Bridge was 99% completed and the contract for the grading and paving of the approaches from Olney Avenue to Adams Avenue was 89% completed. The area of the street car tracks was completed and vehicular traffic was using the east shoulder of the road. The west shoulder was not completed until the spring of 1930. Both of these contracts were completed during the year. The grading and paving extended over a length of approximately a half mile. The paving consisted of used granite blocks on a slag base in the car track area, and bituminous macadam on the shoulders, it being the intent that this temporary paving should serve until such time as the heavy fill on the roadway had taken its final settlement. The cost of the bridge was \$98,931.41, and the cost of the grading and paving of the approaches was \$94,223.77.

HUNTING PARK AVENUE BRIDGE OVER THE PHILADELPHIA AND BUSTLETON RAILROAD -

O.K.
The above bridge was 96% completed at the end of 1929, and final payment was made early in the year. This bridge makes possible the extension of Hunting Park Avenue to the east, as far as Tacony Creek. Its total cost was \$55,815.31, of which the City paid one-half and the Pennsylvania Railroad paid one-half.

HENRY AVENUE BRIDGE OVER THE READING COMPANY, BETWEEN HUNTING PARK AVENUE

O.K.
AND ROBERTS AVENUE - The Henry Avenue Bridge over the Reading Company's tracks was begun in December, 1929, and only a small amount of work had been done at the first of the year 1930. The bridge was completed during 1930, at a total cost of \$523,763.94, of which the City paid \$492,966.62, and the Reading Company paid \$30,797.32. This bridge is of steel encased in concrete. It has a total length of 650 feet and carries a street 100 feet wide. It is a part of the project to construct Henry Avenue from 30th Street and Hunting Park Avenue to the northwest section of the City.

In addition to the bridge, a contract was entered into for the construction of a retaining wall on the south approach. The limit set for the cost of the retaining wall is \$35,000.00. The work was 28% completed at the end of the year. Plans are now being prepared for the construction of approaches beginning at Hunting Park Avenue and extending to the north so far as possible with the funds available.

WYOMING AVENUE AND ROOSEVELT BOULEVARD BRIDGE OVER THE NORTH PENN RAILROAD -

O.K.
The Wyoming Avenue Bridge, which was begun in December, 1929, was completed during this year, at a total cost of \$95,771.63. This project was an extension of the present bridge which carries Roosevelt Boulevard over the North Penn Railroad. The desirability of a cross-town car line on Wyoming Avenue made it necessary that the old bridge be widened. In addition, the Boulevard is greatly improved, since it is now opened at

this point to its full width, thus doing away with a rather dangerous bottle-neck for traffic.

O.K.
CAYUGA STREET BRIDGE OVER NORTH PENN RAILROAD - The Cayuga Street Bridge was begun in May and completed in December of this year. It is a steel plate girder bridge encased in concrete, and spans the Reading tracks, with a 60 foot street. The project included the construction of approaches, with paving 18 feet wide, and opened Cayuga Street to traffic from Fifth Street to Sixth Street. The total cost of the project was \$60,778.06, of which the City paid \$35,433.61, and the Reading paid \$25,344.45.

During the year 1930 construction was begun on the following contracts:-

O.K.
HENRY AVENUE BRIDGE OVER WISSAHICKON CREEK - The Henry Avenue Bridge over Wissahickon Creek was started during March. At the end of the year all foundation work was completed, and the abutments and approach spans were nearing completion. The steel falsework for one rib on the main arch had been erected and a considerable portion of the rib had been constructed. The project, as a whole, was estimated to be 44% complete.

The size of this bridge is unusual. The span of the main arch is approximately 288 feet, and the height over the creek to the roadway is about 185 feet. The total length of the bridge is nearly 900 feet. The width of roadway is 60 feet and two 12 foot sidewalks are provided for. The entire outer face of the bridge will be faced with stone. This bridge, like the bridge over the Reading tracks, forms a part of the proposed extension of Henry Avenue to the northwest. The limit of contract has been set at \$1,770,000.00.

WELSH AVENUE BRIDGE OVER PENNYPACK CREEK - Construction was begun on the

Welsh Avenue Bridge on February 14, 1930, and at the end of the year was 96% complete. The bridge is a reinforced concrete arch structure consisting of one 90' arch and two 40' arches. The total length of the bridge is nearly 300 feet and a width of street of 70 feet is provided for. The bridge replaces an old stone bridge which was built in 1811, the roadway of which was too narrow for modern traffic. Plans are now being prepared for the bridge approaches which will be improved from Rowland Avenue to Holmes Circle. It is planned that the work will start as early as possible in the spring. The new road will be widened to its full width of 70 feet and all heavy grades will be eliminated so as to better accommodate the heavy traffic which the road will have to carry.

OLNEY AVENUE BRIDGE OVER P. N. & N. Y. RAILROAD - Construction was begun

on the Olney Avenue Bridge on April 17, 1930, and at the end of the year was 90% completed. The bridge is a concrete encased steel plate girder bridge. It will open Olney Avenue from Front Street to Rising Sun Avenue and will make possible the construction of a street car feeder line from the northeast down Rising Sun Avenue and west on Olney Avenue to the subway terminal at Broad and Olney. The steel work of this bridge is interesting on account of the unusual size of the main plate girders. These girders are 132 feet long, over 13 feet high, and each girder weighs approximately 160 tons. They are the heaviest girders which have been placed in Philadelphia, and so far as can be learned, they are the heaviest simple span plate girders which have ever been made. This bridge is being built at the joint expense of the City and the Reading Company, the City paying 69.8% and the Reading paying 30.2%.

Plans have been completed for the grading and paving of the road from Front Street to Rising Sun Avenue, and construction will begin early in 1931.

RISING SUN AVENUE AND BRISTOL STREET BRIDGE OVER THE PHILADELPHIA, NEWTOWN

O.K. AND NEW YORK RAILROAD - Construction of the Rising Sun Avenue and Bristol Street Bridge was begun on December 1, 1930, and at the end of the year was 7% completed. This bridge replaces an old bridge with masonry abutments and timber floor, which had become obsolete. The new construction will make possible the opening of Rising Sun Avenue to its full width of 70 feet. It will also improve conditions on Second Street, which rises on a steep grade from the level of the railroad to meet Rising Sun Avenue and Bristol Street at their intersection. In order to maintain reasonable grades on Bristol Street and on Second Street, the project includes the lowering of the railroad tracks. The City and Railroad are undertaking this work jointly. The total cost will be about \$150,000.00 of which the City pays 2/7 and the Railroad pays 5/7.

O.K. 56TH STREET BRIDGE UNDER CHESTER BRANCH OF THE READING COMPANY - Construction of the 56th Street Bridge was begun on July 21st, and at the end of the year the work was 94% completed. The bridge is a through plate girder type. The abutments are of concrete. The construction will make possible the opening of 70th Street from Lindbergh Avenue south to the Schuylkill River. The total cost of construction will be \$40,000.00, which figure also includes considerable work on the road. The Railroad and City share equally the cost of the bridge.

O.K. MASCHER STREET BRIDGE OVER THE RICHMOND BRANCH OF THE READING COMPANY - The Mascher Street Bridge was begun December 1, 1930, and at the end of the year was 12% complete. This bridge is of steel plate girder type encased in concrete. It will open Mascher Street to its width of 60 feet across the railroad tracks. The cost of the bridge will be approximately \$97,000.00 of which the City pays 67 $\frac{1}{2}$ % and the Railroad pays 32 $\frac{1}{2}$ %.

"B" STREET BRIDGES UNDER THE CONNECTING RAILROAD AND THE PHILADELPHIA AND

BUSTLETON RAILROAD - Construction began on the "B" Street Bridges on August 4, 1930, and was 47% completed at the end of the year. The purpose of the construction of these bridges is to open "B" Street from Venango Street to Erie Avenue. The new roadway will pass under three branches of the Pennsylvania Railroad, the Fairhill Branch, the Main Line of the Connecting Railroad and the Philadelphia and Bustleton Branch. The Pennsylvania Railroad will construct the Fairhill Branch at its own expense. The bridges under the Connecting Railway and the Philadelphia & Bustleton Railroad are being constructed jointly by the City and the Pennsylvania Railroad. The total cost will be about \$160,000.00. The Railroad will pay one-third of the cost on the Connecting Railway Bridge and one-half of the cost on the Philadelphia & Bustleton Branch.

UNIVERSITY AVENUE BRIDGE AND APPROACHES - Two contracts were entered into

on University Avenue Approaches between Grays Ferry Avenue and the Schuylkill River. A grading contract was begun July 13th, and at the end of the year was 99% complete. The contract was also signed for the construction of a bridge to carry 34th Street over the Schuylkill River East Side Railroad. This bridge is being built jointly by the City and the Baltimore & Ohio Railroad, each paying one-half of the cost.

Plans for the bridge which will carry University Avenue under the Pennsylvania Railroad tracks have been presented to the Art Jury and can be completed promptly upon approval of the architectural details. Construction of the foundations for this bridge will begin very shortly after the first of the new year.

Plans have been completed for the following projects which have not been placed under contract:-

70TH STREET BRIDGE OVER PHILADELPHIA, BALTIMORE & WASHINGTON RAILROAD

- Advertising of the contract awaits the signing of an agreement between the City and the Railroad, fixing division of cost for the project. Construction will no doubt begin early in the year.

EAST LOGAN STREET BRIDGE OVER THE GERMANTOWN AND CHESTNUT HILL BRANCH OF THE READING COMPANY - An agreement has been entered into regarding the division of cost, whereby the City will pay 29.31% and the Railroad will pay 70.69%. Construction will begin so soon as plans are approved by the Art Jury and the Public Service Commission. Plans have been completed by the Reading Company.

Plans have not been completed for the following bridges:-

Kingsessing Avenue over the Octoraro Branch of the P. B. & W.

Walnut Lane over Lincoln Drive.

Ashburner Street over the Philadelphia & Trenton Railroad.

Summerdale Avenue under Philadelphia & Frankford Railroad.

Convent Lane over Philadelphia & Trenton Railroad.

City Line over the Schuylkill Division of the Pennsylvania Railroad.

Penrose Avenue Tunnel or Bridge - Studies were continued on a vehicular tunnel under the Schuylkill River on the line of Penrose Avenue until March, when a report and preliminary drawings were submitted. The tunnel would replace an old drawbridge on Penrose Ferry Road about 700 feet south of Penrose Avenue, and would provide a crossing for traffic to all points south of the Schuylkill, including the new airport.

Twin tubes were proposed, each with a 20

foot roadway, deep enough to allow for future dredging of the Schuylkill to a depth of 40 feet in the channel. Approach grades of $4\frac{1}{2}\%$ made the total length between grade intersections 3936 feet. Mechanical ventilation would be provided by blowers in portal buildings.

Borings were made along the line of the tunnel and showed bad material for tunneling, particularly on the approaches. It was concluded that tunneling by shield would be the only practical method. Cost of the project, with a capitalized difference of operating costs between tunnel and bridge, was estimated at nearly 17 million dollars.

Studies and preliminary drawings were submitted in July on a project to build a suspension bridge on Penrose Avenue over the Schuylkill River. A clearance of 135 feet over the channel was proposed with approaches at $3\frac{1}{2}\%$ grades and a total length between grade intersections of 7826 feet. Main piers and anchorages would be taken to bed rock and the approaches would be supported by piles. Girder approaches on concrete piers were recommended. The main span would have a length of 683 feet, center to center of towers.

Roadway width of 57 feet for 6 vehicular lanes would provide for double the traffic that could be carried in a twin-tube tunnel. Two footwalks 8 ft. 6 in. wide were provided. The cost is estimated at \$9,850,000.00.

ANNUAL REPORT
1930

Under the several agreements between the City and Railroad Companies for abolishing grade crossings and railroad terminal improvements, substantial progress was made during the year.

The following are the different projects under the charge of the Grade Crossing Division of the Bureau:

1. South Philadelphia Track Elevation
2. Pennsylvania Terminal Improvement
3. Manayunk Elevated
4. Germantown and Chestnut Hill Elevated
5. Pennsylvania Avenue Improvement
6. Baltimore and Ohio Terminal Improvement
7. Elimination of Grade Crossing on the Newtown Branch of the Reading Company

SOUTH PHILADELPHIA TRACK ELEVATION

1,311,580.87
951
1,406,580.87

On the South Philadelphia track elevation the work was confined to the raising to their new grades the running and yard tracks of the Pennsylvania Companies and the Baltimore Companies from Passyunk avenue to League Island park and between Twenty-fourth and Twenty-sixth streets. The curbing and paving of Twenty-fifth street from Ellsworth to Mifflin streets was completed and the construction of the sewer and laying water mains on Twenty-fifth street between McKean parkway and Passyunk avenue was placed under contract and is now under way.

PENNSYLVANIA TERMINAL IMPROVEMENT

All energy was exerted toward advancing the construction on the east side of the river so that the suburban station at Sixteenth street and the Pennsylvania boulevard could be placed in service, together with the station for suburban trains west of the river. The work had advanced to such a stage that on September 28th the subway and stations were put in service.

The work west of the river, and especially the construction of the bulkhead wall from Spring Garden street southward, has advanced to such a point that we can not proceed. The construction of the bulkhead work has been suspended on account of the ash handling wharf not being removed and relocated. The improvement on Chestnut street between Thirtieth street and the river together with Thirtieth street from Market street to Walnut street are about 85% completed.

All property along the west bank of the river required for the opening of the river drive and Schuylkill avenue west has been acquired, except between Market and Chestnut streets, and it is the area adjoining the site for the new post office.

3,504,629.36
1,120,607.20
4,624,636.56

1,118,235
195,332.
1,313,567

MANAYUNK ELEVATED

All grade crossings between Wissahickon creek and Fountain street were eliminated. Regular train schedule was established over the elevated March 7, 1930. Construction work is about 96% completed and damage claims are now pending before the Board of Viewers.

GERMANTOWN AND CHESTNUT HILL ELEVATED

On the elimination of grade crossings along the line of the Philadelphia, Germantown and Norristown Railroad and the Chestnut Hill Railroad, and especially on the Chestnut Hill section, substantial progress has been made. The grade crossings at Willow Grove avenue and Mermaid lane were eliminated and the work of improving them is now in progress. The new station building at Wyndmoor, just south of Willow Grove avenue, and the elevated tracks were put in service December 14, 1930.

Surveys and other field work on the Germantown section have been completed and construction plans are under preparation, so as to commence work just as soon as funds are provided for the City's share of the cost. In this connection \$2,500,000. should be provided at an early date as possible in order that the City can meet the obligation as the work progresses. Unless additional funds are provided the City will be compelled to cease work.

PENNSYLVANIA AVENUE IMPROVEMENT

As Council has authorized the opening and improving of Pennsylvania avenue between Twenty-sixth street and Girard avenue and as this improvement is over the tracks of the Reading Company an agreement was entered into on November 26, 1930. Plans and specifications have been prepared and will be ready for the receipt of bids early in the year 1931 for that section of the avenue between Twenty-sixth and Twenty-seventh streets.

BALTIMORE & OHIO TERMINAL IMPROVEMENT

No work on this project was done.

ELIMINATION OF GRADE CROSSINGS ON THE NEWTOWN BRANCH

No work done. Awaiting further legislation by Council.

BUREAU OF ENGINEERING AND SURVEYS

ANNUAL REPORT

for 1930

DRAINAGE

1,236,501.09
407,605.31
1,644,106.35
997,488.54
105,023.76
1,052,512.30

Main
Branch

For the year 1930, there was available for the construction of main sewers \$2,634,684.84 and for branch sewers \$1,551,355.25. From these funds contracts were entered into which resulted in the completion of 4.88 miles of main sewers and 22.28 miles of branch sewers. Contracts entered into comprised 15 for main sewers, 181 for branch sewers and five at private cost, which together with drainage structures built under the grade crossing work and the sewage treatment project, made a total increase of 34.58 miles to the drainage system of the City. At the end of 1930, there was a total of 1,762.58 miles of sewers completed within the limits of the City of Philadelphia.

Main Sewer contracts entered into prior to 1930 and completed during that year were as follows:

HARTEL STREET from Bradford Street to Glendale Avenue and in Glendale Avenue from Hartel Street to Horrocks Street: This is a reinforced concrete sewer, 12' x 12', and was completed to a total length of 715 feet.

HEGERMAN STREET from the present sewer southwest of Robbins Street to Robbins Street and in Robbins Street from Hegerman Street to northwest of Torresdale Avenue: This is a reinforced concrete sewer, 10' x 10' becoming an 8' x 8' reinforced concrete sewer, 31 feet being constructed.

LITTLE TACONY CREEK SEWER from southwest of Lewis Street to Frankford Creek: A reinforced concrete sewer 8'6" x 9'6" with a length of 511 feet.

WISSAHICKON HIGH LEVEL CUT-OFF SEWER in Stokley Street and in Fairmount Park from the present terminus northwest of Coulter Street to a point about 1060 feet northwest of School House Lane. This is a 6'0" diameter sewer, constructed entirely in rock tunnel and is at a depth of approximately 200 feet below the surface of the ground. Total length 1966 feet.

The following main sewers were placed under contract and completed in 1930.

BROUS STREET between Tyson Street and St. Vincent Street. A 4'0" diameter brick sewer with a length of 1,342. feet.

HAMMOND STREET between Champlost and Olney Avenues: Was constructed to a length of 2,931 feet of various sizes in brick construction.

HOYT STREET from Delaware River to Delaware Avenue, in Delaware Avenue from Hoyt Street to Pattison Avenue and in Pattison Avenue between Delaware Avenue and Swanson Street: This sewer consisted of 1,453 feet of two 7' x 9' and two 7' x 10' reinforced concrete stormwater and effluent conduits, quadruple section on piles also 987 feet of two 7' x 9' reinforced concrete stormwater conduits, twin section on piles. The two 7' x 10' effluent conduits are a portion of the drainage unit in connection with the comprehensive sewage disposal plan and were built at this time to allow

38-1930

railroad development to proceed in accordance with the South Philadelphia Agreement with the railroads.

An additional contract was entered into with the Pennsylvania Railroad Company for the removal of the wood preserving plant which was situated on the site of the sewer development.

PASSYUNK AVENUE from 67th Street to 67th Street in 67th Street from Passyunk Avenue to Eastwick Avenue and in Eastwick Avenue from 67th Street to the present sewer northeast of 67th Street: This is an 8' x 11' reinforced concrete sewer, twin section, part of which crosses under the Reading Railway. Small sections of 10' x 10' reinforced concrete sewer and 7' x 10' reinforced concrete sewer were also completed, all sizes amounting to 434 feet.

73RD STREET AND MORRIS PARK between Lebanon Avenue and City Avenue. This is a 24" vitrified pipe 3,331 feet in length.

TABOR STREET from Tacony Creek to Marwood Road: A 3'0" diameter brick sewer and other sizes with a length of 672 feet.

Contracts were entered into for the following sewers and the work is still proceeding:

CASTOR AVENUE between Aramingo and Frankford Avenues: This is a reinforced concrete sewer, 7' x 8' becoming a 7' x 6'6" reinforced concrete sewer and was constructed to a length of 2,547 feet.

GLENDALE AVENUE between Horrocks Street and Castor Avenue: A 12' x 12' reinforced concrete stormwater sewer with two 24" vitrified pipe sewage conduits and a length of 1,538 feet.

GORGAS LANE from east of Henry Avenue to Lawnton Avenue: This is a 6'6" diameter reinforced concrete sewer with a 15" vitrified pipe becoming a 3'6" diameter reinforced concrete sewer with a 15" vitrified pipe, the length constructed being 1,604 feet.

HORROCKS STREET between Glendale Avenue and Bustleton Avenue: A reinforced concrete stormwater sewer 6' x 4' with a 15" vitrified pipe sewage conduit becoming a 5' x 4' reinforced concrete stormwater sewer with a 15" vitrified pipe sewage conduit and was constructed to a length of 2,308 feet.

MAIN RELIEF SEWER THROUGH FAIRMOUNT PARK from Schuylkill River to Fairmount Avenue and in Fairmount Avenue between Fairmount Park and 23rd Street. This contract is the first of a project to relieve the overcharging of the Cohocksink and Somerset sewer systems by diverting the stormwater flow. When it reaches a point near the Aquarium in Fairmount Park it branches into three outlets of varying sizes of which the following portions were built this year:.

9' x 8' reinforced concrete and 7' x 7' reinforced concrete sewer for a length of 426 lin. ft.

ROOSEVELT BOULEVARD from northeast of Tyson Avenue to Princeton Avenue, in Princeton Avenue from Roosevelt Boulevard to Calvert Street, in Calvert Street from Princeton Avenue to St. Vincent Street and in St. Vincent Street from Calvert

Street to Bustleton Avenue: An 8' x 7' reinforced concrete sewer, 693 feet being completed.

WISSAHICKON LOW LEVEL COLLECTING SEWER through Fairmount Park between the present terminus north of Township Line Road to Perkiomen Turnpike: This is a 27" vitrified pipe 1,887 feet in length.

WISSAHICKON HIGH LEVEL CUT-OFF SEWER in Stokley Street and in Fairmount Park from the present terminus northwest of School House Lane to the Wissahickon High Level Sewer: A 6' diameter brick sewer in tunnel becoming a 5 feet diameter brick sewer in open cut and including syphon pipes under Cresheim Creek was constructed to a length of 397 feet. This contract when finished will complete the diversion of the Wissahickon High Level Sewer drainage from the present discharge point into the Schuylkill River below Fairmount Dam to the Delaware River.

from the Sewage Pumping Station to the Treatment Works. The force main was cut, and sewage formerly conveyed to the Treatment Works was discharged into the Upper Delaware Collecting Sewer for conveyance to the Northeast Sewage Treatment Works, and operation of the Pennypack Sewage Treatment Works was discontinued.

The parcel of land near State Road and Ashburner Street, upon which these Works were constructed, was returned to the custody of the Bureau of Water, December 31, 1930.

On December 13, 1930, further progress on the work of constructing the extension of the Upper Delaware Collecting Sewer and on the work of constructing the County Prison Sewer from its connection with said Upper Delaware Collecting Sewer in State Road to Torresdale Avenue permitted the routing of sewage from the County Prison and the Torresdale Avenue Sewer direct to the Upper Delaware Collecting Sewer, and the discontinuance of operation at the Pennypack Sewage Pumping Station.

CONTRACTS CARRIED FORWARD FROM 1929 AND COMPLETED 1930.

Interceptor Connections to the Upper Delaware Collecting Sewer	
at Dark Run Lane	\$2,452.74
" Magee Street	31,848.46
" Bridge Street	8,905.30
" Cottman Street	44,708.62
" Orthodox Street(second contract)	32,032.47
" Vandike Street	4,119.89
	<u>124,067.48</u>
Northeast Low Level Grit Chamber, Mechanical Equipment	120,094.00
Northeast Sewage Works, Electricity Service	1,300.00
Upper Frankford Creek Low Level Collecting Sewer in Luzerne Street	
Aramingo Avenue and along Frankford Creek to 320 ft. SE of	
Frankford Avenue	274,999.28
Tacony Creek Intercepting Sewer extension between Whitaker	
Avenue and Ruscomb Street	6,140.91
Grading, Paving, etc., Wheatsheaf Lane from present paving to	
Delaware River	213,730.61

CONTRACTS AWARDED 1930 AND COMPLETED 1930

Tacony Creek Interceptor connection at Roosevelt Boulevard	\$8,482.96
County Prison Intercepting Sewer along Pennypack Creek, State Road to Torresdale Avenue (first contract)	26,995.25
(second contract)	3,079.94
Extension of Keystone Telephone underground conduit at Northeast Sewage Treatment Works	355.00

CONTRACTS AWARDED 1930 BUT NOT COMPLETED

Upper Delaware Collecting Sewer in City Property and State Road from Holmesburg Avenue to Ashburner Street	
Amount of contract - \$215,000.	-- 77% complete.
Lower Frankford Creek Low Level Collecting Sewer in Lefevre Street from Upper Delaware Collector to Frankford Creek and Adams Avenue, and to Bridge Street	
Amount of contract - \$650,000.	-- 44% complete.
Grading, Planting and Improvement of Grounds, Northeast Sewage Works	
Amount of contract - \$20,000.	-- 95% complete.
Hire of Motor Boat for River Investigations	
Amount of contract - \$2500.	-- 95% complete.
Test Borings - Amount of contract - \$5000.	
Churn Borings - " " " - \$5000.	
Restoration of Paving, Wissinoming Street from Unruh Street to Cottman Street	
Amount of contract - \$15,000.	(Work not started).
Upper Frankford Creek Low Level Collecting Sewer along Frankford Creek, S.E. of Frankford Avenue to Wyoming Avenue	
Amount of contract - \$125,000.	(Work not started).

ANNUAL REPORT - 1930.

DRAINAGE DIVISION

Mingo Creek Pumping Station

This Station is located on the west bank of the Schuylkill River north of Penrose Ferry Road, and was constructed in 1896 to provide surface drainage for the lowlands of the 40th Ward. The surface elevations throughout the lowlands are generally below the high tide level in the surrounding rivers, and this area is therefore protected from flooding by a system of dikes along the Water front. The natural creeks traversing this area have been converted into a system of drainage ditches and discharge into the main channel of Mingo Creek, which terminates at the site of the Pumping Station.

Two 150 horsepower oil fired boilers provide steam for driving 2 horizontal centrifugal pumps of a combined capacity to lift 60 million gallons per day and discharge the water into the Schuylkill River against a head of 13 feet.

On Sunday, May 25, 1930, during a heavy wind, the 36" diameter 60-ft. high metal stack erected in 1921 over boiler #1, broke loose at a point midway between the top and bottom, and held temporarily by the guy wires and a strip of metal along the vertical lap joint. To prevent injury to life and property and the possible wrecking of the plant, a rigging contractor was rushed to the Station and removed the upper 30 feet of the stack.

At the same time it was discovered that the metal of #2 boiler smoke stack had eaten through at a point 15 feet below the top, presenting another hazard to life and property. This, too, was removed and the entire work completed without damage of any kind to the Station, at a total cost of \$543.25.

The thickness of the metal plates of which the stacks were constructed was originally $3/16$ "; some portions of the plates had been reduced to a thickness not greater than $1/64$ ". The surface of the metal on the outside of the stack when freed of paint appeared to be bright, with no evidence of rust.

Contracts for replacing the two damaged stacks were awarded, and the work completed at a cost of \$625 for #1 stack, and \$637 for #2 stack.

The treatment of boiler feed water, inaugurated 1929, has been continued, and the results are entirely satisfactory. The cost for chemicals during the year amounted to \$400.

To provide improved drainage for a portion of the 40th Ward situate between the dike along Darby Creek and the dike abutting the property of the Government rifle range, a contract, entered into for the construction of sluice gates in the bank of Darby Creek at the County Line, to the amount of \$5000, is 45% complete.

The completion of the 67th Street Main Sewer Outlet to the Schuylkill River, together with the low rainfall, resulted in a considerable reduction in the total daily volume pumped during the five later months of the year.

Of the estimated yearly pumpage totaling 2567 million gallons, 2154 million gallons were pumped during the first seven months.

The pumping hours for one unit during the year totalled 1426 hours, and the fuel oil consumption amounted to 166,478 gallons at a cost of \$6243.10 for fuel oil. The total expenditure for operation, maintenance, repairs and equipment amounted to \$17,869.96.

SEWAGE DISPOSAL DIVISION

Southwest Sewage Pumping Station

This Station is located on a 1000 acre tract near Penrose Ferry Road and Island Avenue, the proposed site of the Southwest Sewage Treatment Works.

The motor-driven pumping equipment now installed consists of 4 vertical volute pumps designed for a total daily pumpage of 50 million gallons against a 40-ft. head. Future installations will increase the pumping capacity of this Station to 160 million gallons daily.

This Station was placed in operation August 24, 1927.

The collecting sewer has been constructed from the Pumping Station to a point in 75th Street 30 ft. SE of Wheeler Street, with a branch from 80th Street near Erwig Avenue to 82nd Street and Bartram Avenue.

The small quantity of sewage now collected requires about 2 hours daily pump operation, and will continue to be discharged into Eagle Creek pending the design and construction of the Sewage Treatment Works to be located adjacent to this Station.

Construction work within the area served by this Station has resulted in a temporary lowering of the ground water elevation and a noticeable reduction in the hours of pump operation.

On the night of August 28th, during an electrical storm, the apparatus in the Outdoor Transformer Station was damaged. Contract awarded for the necessary repairs was completed at a cost of \$379.00.

A contract entered into in 1929 for the extension of the 80th Street and Island Avenue Low Level Intercepting Sewer was completed from 126 ft. NW of Erwig Avenue to a point in 75th Street 30 feet SE of Wheeler Street, at a cost of \$254,981.87.

The total cost of maintenance, operation and equipment of this Station for 1930 amounted to \$15,286.10, of which \$11,344.34 was for salary and wages; \$2172.00 for power and light; and \$1769.76 for maintenance and supplies.

Frankford Creek Grit Chamber.

This Station is located on a tract bounded by N Street, Hunting Park Avenue, O Street and Lycoming Street, and provides coarse screening and preliminary sedimentation for sewage collected by the Wingohocking and Tacony Creek Intercepting Sewers, so as to remove coarse material and sand from the sewage before it enters the pressure conduit constructed in Wheatsheaf Lane, and leading to the Northeast Sewage Treatment Works.

The Frankford Creek High Level Collector leading to the Grit Chamber is designed for a flow as high as 200% of the average dry weather flow, to afford

additional protection to that portion of the Frankford Creek flowing through Juniata Park.

The permit issued by the Pennsylvania State Department of Health provides, and the Grit Chamber and Treatment Works have been designed for the treatment of sewage flows as high as 141% of the average dry weather flow. Accordingly, a stormwater overflow weir has been constructed at a point in the sewer where it connects with the Grit Chamber, and the excess of stormwater is conveyed directly to Frankford Creek below the park property.

The volume of sewage handled was 668 million gallons less than the previous year, due no doubt to the industrial depression and the deficiency of rainfall during the later five months of the year.

During the period January 1 to December 31, 1930, from a total sewage flow of 11,917 million gallons, 14,676 cubic feet of wet screenings were intercepted, which equalled 1.2 cubic feet per million gallons of sewage.

34,655 cubic feet of wet grit, equal to 3.0 cubic feet per million gallons of sewage, were intercepted, washed and hauled to the Northeast Sewage Treatment Works for disposal on low ground.

Analysis of the grit removed indicated a volatile matter content of 5.3%.

2126 cubic feet of grease were intercepted and disposed of with the screenings.

~~The metal fence surrounding the grounds was painted at a cost of \$266.~~

The total expenditure for maintenance, operation, repairs and equipment during 1930 amounted to \$11,241.68, or 94 cents per million gallons of sewage treated.

Northeast Sewage Treatment Works.

These Works are located along Wheatsheaf Lane between Richmond Street and the Delaware River. The first section of these Works was placed in operation October 29, 1923, and comprises 32 reverse flow Imhoff tanks and 80 sludge drying beds, and is designed for a sewage flow of 60 million gallons per day, at a detention period of 3 hours.

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



January 28, 1931

REPLY AND REFER TO: BES - HMB:MET

From: H. M. Beaumont, Assistant Engineer.
To: Mr. John E. Allen, Principal Assistant Engineer.
Subject: ANNUAL REPORT.

Supplemental to my letter of January 26, forwarding 1930 Annual Report data, there should have been noted:

Department of Health letter October 22, 1930, rescinding ban on sewer extensions along Delaware River north of Magee Street, in effect since March 27, 1928.

X Restoration of Paving, Wissinoming Street from Unruh Street to Cottman Street, reported in error as awarded 1930; should read "awarded 1929."

X To contracts awarded 1930 but not completed, should have been added "Pump Parts for Northeast Pumping Station, \$450."

H. M. Beaumont

H. M. Beaumont
Assistant Engineer.

Prior to July 16, 1930, all sewage treated at these Works was conveyed by gravity by way of the Frankford Creek High Level Collecting Sewers.

The year 1930 witnessed the following outstanding events in carrying out the sewage disposal project in the Northeast section of the City:

Completion of the Upper Delaware Low Level Collecting Sewer along the Delaware River from the Northeast Sewage Treatment Works to a connection with the Pennypack Creek Intercepting Sewer, near Frankford Avenue, and providing therein for the interception of sewage originating in those portions of the City draining to the Delaware River between Wheatsheaf Lane and Pennypack Creek, and to Pennypack Creek between the Delaware River and Bensalem Avenue, and conveyance of the sewage/^{intercepted} to the Northeast Sewage Pumping Station.

Completion of the Northeast Sewage Pumping Station and Grit Chamber, and the placing of these units in operating service on July 16, 1930. A brief description of these units, with their mechanical and electrical features, is as follows:

Pumping Station

Purpose - to raise sewage from low level collecting sewers to settling tanks.

Size - 140 ft. long x 65 ft. wide; pump floor elevation -33.5; force main floor elevation -15.25; motor floor elevation +5.0; ceiling at ridge elevation +45.0.

Sub-structure - reinforced concrete designed to withstand floatation against 35 ft. hydrostatic pressure.

Super-structure - structural steel framing; exterior of tapestry brick with limestone trimmings; interior of light buff brick with white enamel brick wainscoating; motor floor of quarry tile.

Pumps - vertical volute type: (present installation)

1 - 36"	327 RPM	head 35'	capacity 31.7 million gallons daily.
1 - 36"	277 "	" 26'	" 31.7 " "
1 - 24"	514 "	" 36'	" 17.3 " "
1 - 24"	450 "	" 27'	" 17.3 " "
1 - 24"	400-450"	" 36'	"(max) 17.3 " "
1 - 24"	335-435"	" 27'	" " 17.3 " "

Pumps - future: 6 - 36" pumps, 36' head, cap. each 31.7 million gallons daily.
(cont.) Direct connected synchronous motors are employed to drive the constant

speed pumps as follows:

for the 36" pumps, 250 HP motors

" " 24" " against a 36' head, a 150 HP motor.

" " 24" " " 27' " " 125 " "

Direct connected variable speed induction motors drive the 24" variable speed pumps as follows:

for the pump operating against a 36' head, a 150 HP motor.

" " " working against a 27' head, a 125 HP motor.

Operation - Electricity service supplied by Philadelphia Electric Company at 2300 volts pressure. A two-phase, 3 wire system is employed. Pump motors are started and stopped manually by control levers located on the switchboard, and in addition, a special stop has been located at each motor for emergency use. A motor-operated gate valve has been placed on the discharge end of each pump, and a hand-operated gate valve on the suction end. Electrical connections are so arranged that upon the stopping of any pump motor the discharge gate valve is automatically closed and the necessity for check valves on the pump discharge is thereby eliminated. Lubrication of pump and line shaft bearings is accomplished in an automatic gravity feed. Lubrication of motor bearings is independent of this system. All bearings are protected against overheating by temperature relays designed to function when the temperature of the bearings exceeds a pre-determined safe limit. The functioning of a relay on any unit arrests the power supply to that motor, and operates a Klaxon horn mounted on the switchboard. At the same time the location of the overheated bearing is indicated on the annunciator also mounted on the switchboard.

Meters - 2 - 48" and 2 - 54" Simplex indicating and recording flow meters have been installed for indicating the rate of flow and for measuring the volume of

Meters - sewage pumped. For the purpose of indicating and recording the velocity (cont.) of the sewage through the flow channels of the grit chamber, and for the guidance of the operator of the pumps, there have been mounted on the switchboard electrically operated velocity meters which are connected to a device located in the flow channels of the grit chamber. To better control these velocities, the 2 - 24" variable speed pumps before mentioned have been installed to operate in conjunction with the constant speed pumps. By means of large handwheels mounted on the switchboard, the speed of these pumps may be stepped up in intervals of one revolution per minute within the range of variation for which the pumps are designed. With the velocity meter as a guide, the operator will be enabled to control the rate of pumpage to equal that of the inflowing sewage and to maintain at all times the desired velocity of the sewage through the flow channels of the grit chamber.

Grit Chamber.

Purpose - To separate from the sewage before pumping, sand, rags, paper, sticks, etc. not readily responsive to bacterial digestion.

Sub-Structure - 113' x 120' in plan, of reinforced concrete designed to withstand floatation against 35 ft. hydrostatic pressure.

Super-Structure - 113' x 52' in plan, of reinforced concrete.

Operation - Sewage enters the grit chamber from the collecting sewers through three influent channels in which have been placed mechanically cleaned stationary bar screens of $1\frac{1}{2}$ " clear openings. Revolving arms lift the solid particles intercepted by the screens to a steel belt conveyor which in turn deposits the screenings in a pneumatic ejector from whence they are conveyed to an incinerator installed for the purpose in the Heating Plant Building. Hydraulically operated sluice gates are placed at the sewer end of the influent channels. In case of power failure in the station, these gates will automatically close.

Operation - Seven flow channels have been provided for intercepting the grit present (cont.)

in the sewage. These channels are uncovered, V-shape in cross-section, and 55 ft. in length, and are designed to maintain a velocity of approximately 1 ft. per second.

For the removal of the sand which has settled out, a screw conveyor has been installed in the bottom of each channel, which conveys it to a bucket elevator at the inlet end of the channel. The sand is lifted by this elevator to a cross screw conveyor which in turn conveys it to a pneumatic ejector from whence it is discharged to the lowlands on the site of the Treatment Works.

Electrically operated sluice gates have been placed at the inlet and outlet end of each flow channel for placing the channel out of service in times of repairs.

Operation of Northeast Imhoff Tanks.

The total volume of sewage treated during the year amounted to 12,835 million gallons, 11,917 million gallons of which reached the Works by gravity from the Frankford Creek High Level Collecting Sewer, and 918 million gallons pumped from the Upper Delaware Collecting Sewer.

The character of the sewage varies from a rather heavy concentrated day flow containing much trade waste highly colored with dyes, to a more dilute night flow. The volume of dry weather flow fluctuates between a minimum rate of flow of 25 MGD occurring about 5 A.M., and a maximum rate of about 50 MGD occurring about 5 P.M.

Determination of settling solids by Imhoff settling glasses indicates a consistent removal of 100% throughout the year.

Samples for suspended solids collected at 3 hour intervals and made into a weekly composite sample for Gooch crucible determination indicate the following average total suspended solid content:

Works influent	192 PPM
Works effluent	25 PPM

or a reduction of 87% total suspended solids.

While oxidation processes are not employed at these Works, there is an improvement noted in the effluent, as indicated in the biochemical oxygen demand tests which are reported as follows:

Works influent	273 PPM
Works effluent	147 PPM

The total sewage flow for the period January 1 to December 31 amounted to 12,835 million gallons and produced 18,101 cubic yards of wet digested sludge, or 1.4 cubic yards per million gallons of sewage treated.

The total quantity of sludge withdrawn from the Imhoff tanks during the year amounted to 19,200 ~~cuyd~~ ^{cuyd}. This sludge was dark in color, well digested, and flowed freely. Offensive odors were not noted at any time in the vicinity of the lagoon into which the sludge was discharged.

Laboratory analysis of the sludge withdrawn is reported as follows:

Specific gravity	1.022
Moisture	92.9%
Dry residue, volatile	53.3%
" " fats	19.1%
Alkalinity (methol orange)	1169 PPM

Gas ebullition has been very active in nearly all gas vents of the tanks during the year, and foaming was in evidence in varying degrees of intensity from April 1st to December 15th.

Pennypack Sewage Pumping Station and Treatment Works.

This Sewage Pumping Station and Treatment Works were placed in operation December 1, 1912 to serve as a temporary measure in protecting the City water supply originating in the Delaware River at the Torresdale Water Purification Works from sewage pollution arising from the Municipal Institutions in the vicinity, and from the village of Holmesburg.

On September 3, 1930, progress on the work of constructing the extension to the Upper Delaware Collecting Sewer in State Road between Holmesburg Avenue and Ashburner Street had advanced to a point beyond the 14" C.I. force main extending

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ANNEX



REPLY AND REFER TO: BES:FV:C

January 24, 1931.

From : Sewer Registrar
To : Mr. J. E. Allen, Principal Assistant Engineer
Subject : Data for Annual Report

The following is the annual report for 1930 - from
the Permit Division - Room 203.

Sewer Permits 1214	
Connections made to sewers -	2975
Connections to Intercepting sewers -	646
Receipts for 1930	
Sewer Assessment bills -	\$14,719.63
Sewer Permits -	<u>9,049.25</u>
Total Amt. -	\$23,768.88

2975
646
3621

Total number of plans and diaries files - 178

F. W. VAUGHN,
Sewer Registrar.

F. W. Vaughn

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ANNUAL REPORT

FOR 1930

TESTING LABORATORY

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

JANUARY 19th., 1931

53-1930

BUREAU OF ENGINEERING AND SURVEYS

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

CITY HALL ~~ANNEX~~ Room 900



REPLY AND REFER TO: TL-AFB

January 20, 1931.

From: Assistant Engineer, Testing Laboratory Division.
To: MR. John H. Neeson, Chief Engineer & Surveyor
Subject: ANNUAL REPORT

Report of Bureau of Engineering and Surveys Testing Laboratory Division's activities for the calender year 1930 is hereby submitted.

The work consisted of physical and chemical testing of materials, in accordance with their respective specification, for the various city departments and bureaus. Inspection and collection service was performed where required or requested. Investigations covering a variety of materials proposed for use on city contracts were made in the endeavor to select the highest quality of same for construction purposes. Research investigations were conducted on several materials that failed after being placed in the work.

The laboratory is cooperating with the American Society for Testing Materials by assisting in the forming of specifications and test methods for materials of construction and holds membership on several of this Society's committees deemed important to the city's construction work.

High quality of laboratory standards and test methods have been maintained by means of cooperative test with laboratories of repute and the addition of such standard apparatus as has been possible to purchase.

The cost of testing per specimen has been decreased due to the fact that the total number of specimens tested show an increase of approximately nineteen percent over the previous year while the personnel of the laboratory has been decreased by approximately thirteen percent.

The appended tables show the total, variety, distribution and percentage of distribution of the specimens submitted by city departments and bureaus.

A. F. Burbidge
A. F. Burbidge,
Assistant Engineer.

54-1930

TOTAL NUMBER OF SPECIMENS FOR 1930

Brick	510
Cast Iron	66
Cement (Hydraulic)	2419
Concrete Cylinders	3775
Concrete Cores	349
Concrete Building Block	240
Concrete Aggregate	100
Conduits-Electrical	3
Fabrics	27
Fertilizers	8
Fire Hose	3
Foods	6
Fuels	1762
Metals-Ferrous	45
Metals-Non Ferrous	6
Miscellaneous Material	96
Oil-Mineral	161
Paint and Paint Materials	139
Road Materials	2001
Rope	30
Soap and Soap Materials	28
Steel	237
Tile-Burned Clay	483
Total	<u>12,494</u>

DISTRIBUTION OF SPECIMENS FOR 1930

	<u>No. of Specimens</u>	<u>Percent</u>	<u>No. of Specimens</u>	<u>Percent</u>
<u>Dept. of City Transit</u>			1368	11.0
<u>Dept. of Public Safety</u>			740	5.9
Bur. of Boiler Inspection	11	0.1		
" " Building "	717	5.7		
Electrical Bureau	8	0.1		
Bur. of Elevators	1	0.0		
" " Fire	1	0.0		
" " Police	1	0.0		
" " Traffic	1	0.0		
	<u>740</u>	<u>5.9</u>		
<u>Dept. of Public Works</u>			8832	70.7
Bur. of Engineering and Surveys	4813	38.5		
" " Highways	3382	27.1		
" " Water	637	5.1		
	<u>8832</u>	<u>70.7</u>		
<u>Dept. of Supplies</u>			1452	11.6
<u>Dept. of Wharves, Docks & Ferries</u>			93	0.8
<u>Fairmount Park Commission</u>			2	0.0
<u>Board of Public Education</u>			2	0.0
	Total		<u>12,494</u>	<u>100.0</u>

Hydraulic Cement Specimens for 1930

Domestic Portland Cement	2074
Foreign " "	331
Research Investigations	14
Total	<u>2419</u>

Distribution of Hydraulic Cement for 1930

<u>Dept. of Public Works</u>	2040
Bur. of Engineering and Surveys	1763
" " Highways	<u>277</u>
	2040
 <u>Dept. of Public Safety</u>	 29
Bur. of Building Inspection	29
 <u>Dept. of City Transit</u>	 346
 <u>Dept. of Wharves, Docks and Ferries</u>	 4
Total	<u>2419</u>

CHEMICAL SPECIMENS FOR 1930

Cement (Chemical Analysis)		11
Coal		1668
Anthracite	844	
Bituminous	824	
	<u>1668</u>	
Conduits (Electrical)		3
Fabrics		27
Fertilizers		8
Fire Hose		3
Foods		6
Metals		51
Ferrous	45	
Non Ferrous	6	
	<u>51</u>	
Miscellaneous Materials		33
Oil		255
Fuel	94	
Gasolene & Headlight	37	
Lubricating & Lubricants	124	
	<u>255</u>	
Paint Materials		139
Mixed Paints	50	
Pigments	19	
Pastes	20	
Driers	5	
Linseed Oil	25	
Turpentine & Thimmers	13	
Shellac	3	
Varnishes	4	
	<u>139</u>	
Road Materials		2001
Asphalt (Waterproofing)	22	
" Compounds (Miscellaneous)	37	
" Cement (Bituminous)	1	
" " (Penetrations)	1197	
Tar	2	
Wearing Surfaces	742	
	<u>2001</u>	
Rope		15
Sands		12
Asphalt	7	
Concrete	5	
	<u>12</u>	
Soap & Soap Materials		28
Total		<u>4310</u>

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DISTRIBUTION OF CHEMICAL SPECIMENS FOR 1930

Board of Public Education		2
Department of City Transit		95
Department of Public Safety		27
Bur. of Boiler Inspection	11	
" " Building "	6	
" " Fire	1	
" " Traffic	1	
Electral Bureau	8	
	<u>27</u>	
Department of Public Works		2743
Bur. of Engineering & Surveys	76	
" " Highways	2030	
" " Water	637	
	<u>2743</u>	
Department of Purchases & Supplies		1437
Department of Wharves, Docks & Ferries		4
Fairmount Park Commission		2
	Total	<u>4310</u>

SPECIMENS FOR PHYSICAL TEST 1930

Brick		510
Building	280	
Paving	25	
Sewer	205	
	<u>510</u>	
Cast Iron (Arbitration Bars)		66
Concrete		4455
Aggregate Fine	43	
" Coarse	38	
" Grit, Dust, Etc.	7	
Building Block	240	
Cores	349	
Cylinders	3774	
" (Research Investigations)	301	
Slabs	3	
	<u>4455</u>	
Miscellaneous Materials		10
Rope		15
Steel		237
Tile-Liner		390
Tile-Building		93
	Total	<u>5776</u>

DISTRIBUTION OF PHYSICAL SPECIMENS FOR 1930

Dept. of City Transit		927
Dept. of Public Safety		684
Bur. of Police	1	
" " Elevators	1	
" " Building Inspection	682	
	<u>684</u>	
Dept. of Public Works		4060
Bur. of Engineering & Surveys	2935	
" " Highways	1075	
	<u>4060</u>	
Dept. of Supplies		15
Dept. of Wharves, Docks and Ferries		90
	Total	<u>5776</u>

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February 4, 1931.

FROM: Chief Engineer and Surveyor
TO: Alexander Murdoch, Director of Public Works
SUBJECT: TRANSMITTAL OF ANNUAL REPORT

Forwarded herewith, in duplicate, is the Annual Report of the Bureau of Engineering and Surveys for the year 1930, in accordance with your recent instructions.

Encl.

J. H. Neeson,
Chief Engineer and Surveyor.
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BUREAU OF ENGINEERING AND SURVEYS

J. H. NEERSON, CHIEF.

For the year 1930, total funds became available to the Bureau of Engineering and Surveys of \$37,067,756.06, of which there was expended, or placed under contract, \$16,539,991.82 in the carrying on of operations under the items of new City bridges, the elimination of grade crossings, sewers and drainage structures, the sewage treatment project and the operations incident to the treatment of sewage. Departures from these routine matters are of frequent occurrence in the special projects that arise from time to time in City development. In connection with the construction work, the Bureau operates a City Laboratory for the physical and chemical testing of materials of construction and supplies purchased for maintenance and operation of the various City institutions and plants. In connection with the drainage system, it must control the issuing of permits for connection thereto; the investigation and control of trade wastes and discharges from manufacturing processes. The members of the Board of Surveyors - a unit of the Bureau of Engineering and Surveys - are also the official measurers of property and of quantities of work done and materials furnished in carrying out contracts for City construction work, in addition to their duty as makers of the City Plan.

The Bureau of Engineering and Surveys returns funds to the City Treasury from only two sources: the Sewer Registrar for the sale of sewer laterals and frontage charge returns, for which the 1930 return was \$23,768.88; and the Survey District Offices for services rendered to the public and for measurements on contract work, the sum of \$212,009.85. The total return from all sources of funds to the City Treasury was \$235,778.73.

The activities of the Bureau for the year 1930 are outlined in the following condensed statements:

BOARD OF SURVEYORS

A number of special projects of unusual magnitude have been included in the work devolving upon the surveyors, both as a board and as the heads of their individual districts. These arose through the co-operation with the Regional Planning Federation and the City Planning Commission and comprised work incident to street and traffic surveys in the central City area, with particular reference to the Delaware River Bridge Approaches; the rehabilitation of the central City areas; the development of the Schuylkill River banks and the Parkway, Boulevard extensions and the Delaware Avenue widening and extension; necessary changes to the City Plan incident to the Pennsylvania and Baltimore & Ohio Railroad Terminal projects; the Philadelphia Post Office Improvement and the Air, Rail and Marine Terminal at Hog Island have also required continuous, extensive study.

The centering of activity in certain localities made necessary provisions within the Bureau organization to properly handle the additional work falling upon the local office. To accomplish this a revision was made in the district survey offices by which larger areas were combined under one district head in the southern sections of the City, where development activity had decreased, and the northeast section was divided into smaller areas for which the district head had responsibility in order that the intensive development in that section could be properly served.

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A further improvement could be made in the providing of a central building in the South Philadelphia District, which would house the district survey offices, highway district, tax office and other municipal activities, which are now so separated that necessary communication is a matter of lost time and annoyance.

In the Schuylkill Section, the Pennsylvania Railroad Improvement has caused the revision of the City Plan south of Market Street and west of the Schuylkill River, continuing the West River Drive, establishing the viaduct on 30th Street, the widening of Market Street, the changes in the Chestnut Street Bridge Approach and the establishing of 32nd Street as a high level street. Studies also proceeded in the vicinity of South Street covering the approaches to the new Convention Hall and the University Bridge.

On the East side of the River, a number of changes were required in connection with the Pennsylvania and Baltimore & Ohio Railroad improvements. Field surveys and studies have been made along the east bank of the River from Walnut Street to the Parkway and of Pennsylvania Avenue from 24th Street to Girard Avenue. Surveys have been made preliminary to the widening of the cartway of Spring Garden Street from east of Broad Street to 23rd Street.

On October 6, 1930, was confirmed that section of the City Plan establishing Randolph Boulevard from Vine to Spring Garden Streets. The planning of this Boulevard was a step in the project for relieving traffic congestion on the approaches to the Delaware River Bridge. The planning calls for a viaduct street of a total width of 104 feet with overhead crossings at Callowhill, Willow and Noble Streets, together with the dead-ending at the Boulevard of Wood Street and Buttonwood Street. This would provide a high speed traffic street without obstruction from Vine Street to Spring Garden Street. A supplemental report has been made to carry this viaduct over Vine Street to a termination on the bridge approach itself.

The relief of traffic congestion was also the active agency which required the studies for improvement and development of arterial highways such as Castor Avenue and Aramingo Avenue in the Northeast Section and City Avenue along the boundary line between Montgomery and Philadelphia Counties, west of the Schuylkill River.

Conditions along City Avenue were improved by the completion of the section between the Schuylkill River Bridge and Monument Road, but westward of this point a number of sections require improvement before reasonable safety is insured to the heavy traffic using this artery.

Studies are proceeding for the relief of conditions between Belmont and Bryn Mawr Avenues and it is unfortunate that a lack of funds holds back this desirable improvement.

The completion of the Hunting Park Avenue Improvement from Clearfield Street to Ridge Avenue provided another link in the Lincoln Highway crossing Philadelphia. There yet remains to be provided a traffic under-pass at Ridge Avenue, which will eliminate the dangerous grade crossings and will speed up traffic along this section of the highway.

In the Northwest Section, the work of eliminating grade crossings in Germantown and Chestnut Hill has required the revision of lines and grades and the providing of new streets over large areas of the City Plan.

Lincoln Avenue is being extended from its present terminus at Allen's Lane to its northern limit, the completion of which will relieve traffic conditions in that locality.

In the Manayunk and Roxborough Sections, a number of revisions were made to the City Plan tending to relieve the excessive grades and eliminate dangerous curves, as well as provide for a future new street, 80 feet wide, connecting Manayunk and Roxborough and in connection with the bridge on the line of Green Lane will provide a new traffic outlet to the Montgomery County Line.

On October 20, 1930, a section of the City Plan was confirmed placing thereon Godfrey Avenue from Front Street eastward, connecting with Adams Avenue from Rising Sun Avenue westward, and this, when physically carried out, will provide a through traffic artery from the Bethlehem Pike in the Northwestern Section to the Delaware River, a distance of approximately eleven miles.

This plan also confirmed Cheltenham Avenue, a boundary street between Philadelphia and Montgomery Counties, and through the co-operation of the Commissioners of Cheltenham Township, completed the plotting of another cross-town artery of a minimum width of 80 feet between Willow Grove Avenue and Newtown Avenue, a distance of approximately five miles.

In the Northeastern Section, revisions of the City Plan provide for the elimination of railroad grade crossings at Oxford Avenue and at Rhawn Street; agreement has also been reached on the plan for the improving of Cottman Avenue between the New York Short Line and Elm Avenue. The physical carrying out of this agreement will complete the provision of an important traffic artery from North Wales Road to the Delaware River.

The improvement of Oxford Avenue continued between Hellerman Street and St. Vincent Street and from Rising Sun Avenue to Summerdale Avenue. Work is continuing between Summerdale Avenue and Comly Street. It is desirable that provision be made to continue this improvement between Comly Street and Hellerman Street and from St. Vincent Street to Cottman Avenue to develop the full advantage of this improved traffic artery.

Preliminary studies are in progress for continuing the improvement of Frankford Avenue between Welsh Road and Grant Avenue. This work will require the raising and construction of a bridge on the line of the Bustleton Branch, Pennsylvania Railroad, and the construction of a bridge on the alignment of Frankford Avenue over Pennypack Creek, the moving of car tracks to the center of the street and the necessary grading, paving and curbing of Frankford Avenue.

Studies are in progress to coordinate the street system with a system of primary and secondary roads being planned by the Regional Planning Federation through Bucks County.

In connection with the Air, Rail and Marine Terminal at Hog Island, a survey has been made of the site and a plan prepared showing the topography and existing buildings throughout the area and plans are in progress outlining the allocation for airport, seaplane, rail and marine terminal and industrial sites. Studies are in progress for a system of traffic arteries tying in the existing street system with the proposed highways within the terminal area.

BRIDGES

The program of the Bureau's bridge construction carried forward during the year caused an expenditure for completed work, or included in contracts entered into, the sum of \$3,133,437.96, from which seven contracts were completed and work is proceeding on eight. Plans were completed for two additional bridges and planning is proceeding upon six locations. Studies and estimates were prepared under the Councilmanic ordinance for a bridge or tunnel on the line of Penrose Avenue, crossing the Schuylkill River, and a report was rendered to City Council.

During the year, the following contracts were completed:

RHAWN STREET BRIDGES OVER PENNYPACK CREEK: At the beginning of 1930, the contract for the construction of the two reinforced concrete bridges over Pennypack Creek was 99% completed. A contract for grading the approaches had also been entered into and was 82% completed. During the year the final payment was made on both of these contracts. In addition, a contract was entered into for surface drainage on the bridge approaches. The total cost of the two bridges was \$365,142.94, and for the approaches was \$58,799.66. The limit set for the contract for drainage work is \$22,000. The road has been opened to traffic since January 1, 1930, and the drainage work, which is now in progress, will not interfere to any extent with the use of the road. The completion of this project has opened Rhawn Street from Lexington Avenue to Rowland Avenue, making a through connection from the Roosevelt Boulevard to Frankford Avenue. This road had been closed to traffic for several years on account of the deterioration of the old wooden viaducts over the stream, which had become unsafe and which had been condemned by the Highway Bureau.

RISING SUN AVENUE BRIDGE OVER TACONY CREEK: At the beginning of 1930, the Rising Sun Avenue Bridge was 99% completed and the contract for the grading and paving of the approaches from Olney Avenue to Adams Avenue was 89% completed. The area of the street car tracks was completed and vehicular traffic was using the east shoulder of the road. The west shoulder was not completed until the spring of 1930. Both of these contracts were completed during the year. The grading and paving extended over a length of approximately a half mile. The cost of the bridge was \$98,931.41, and the cost of the grading and paving of the approaches was \$94,225.77.

HUNTING PARK AVENUE BRIDGE OVER THE PHILADELPHIA AND BUSTLETON RAILROAD: This bridge was 96% completed at the end of 1929, and final payment was made early in the year. This bridge makes possible the extension of Hunting Park Avenue to the east, as far as Tacony Creek. Its total cost was \$55,815.31, of which the City paid one-half and the Pennsylvania Railroad paid one-half.

HENRY AVENUE BRIDGE OVER THE READING COMPANY BETWEEN HUNTING PARK AVENUE AND ROBERTS AVENUE: The Henry Avenue Bridge over the Reading Company's tracks was begun in December, 1929, and only a small amount of work had been done at the first of the year 1930. The bridge was completed during 1930, at a total cost of \$523,763.94, of which the City paid \$492,966.62, and the Reading Company paid \$30,797.32. This bridge is of steel encased in concrete. It has a total length of 650 feet and carries a street 100 feet wide. It is a part of the project to construct Henry Avenue from 30th Street and Hunting Park Avenue to the northwest section of the City.

In addition to the bridge, a contract was entered into for the construction of a retaining wall on the south approach. The limit set for the cost of the retaining wall is \$35,000. The work was 28% completed at the end of the year. Plans are now being prepared for the construction of approaches beginning at Hunting Park Avenue and extending to the north so far as possible with the funds available.

WYOMING AVENUE AND ROOSEVELT BOULEVARD BRIDGE OVER THE NORTH PENN RAILROAD: The Wyoming Avenue Bridge, which was begun in December, 1929, was completed during this year, at a total cost of \$95,771.63. This project was an extension of the present bridge which carries Roosevelt Boulevard over the North Penn Railroad. The desirability of a crosstown car line on Wyoming Avenue made it necessary that the old bridge be widened. In addition, the Boulevard is greatly improved since it is now opened at this point to its full width, thus doing away with a rather dangerous bottle-neck for traffic.

CAYUGA STREET BRIDGE OVER NORTH PENN RAILROAD: The Cayuga Street Bridge was begun in May and completed in December of this year. It is a steel plate girder bridge encased in concrete, and spans the Reading tracks with a 60-foot street. The project included the construction of approaches, with paving 18 feet wide, and opened Cayuga Street to traffic from Fifth Street to Sixth Street. The total cost of the project was \$60,773.06, of which the City paid \$35,433.61 and the Reading Company paid \$25,344.45.

Bridges placed under contract in 1930 and on which work is proceeding are as follows:

HENRY AVENUE BRIDGE OVER WISSAHICKON CREEK: The Henry Avenue Bridge over Wissahickon Creek was started during March. At the end of the year all foundation work was completed, and the abutments and approach spans were nearing completion. The steel falsework for one rib on the main arch had been erected and a considerable portion of the rib had been constructed. The project, as a whole, was estimated to be 44% complete.

The size of this bridge is unusual. The span of the main arch is approximately 288 feet, and the height over the creek on the roadway is about 185 feet. The total length of the bridge is nearly 900 feet. The width of the roadway is 60 feet and two 12-foot sidewalks are provided for. The entire outer face of the bridge will be faced with stone. This bridge, like the bridge over the Reading tracks, forms a part of the proposed extension of Henry Avenue to the northwest. The limit of contract has been set at \$1,770,000.

WELSH AVENUE BRIDGE OVER PENNYPACK CREEK: Construction was begun on the Welsh Avenue Bridge on February 14, 1930, and at the end of the year was 96% complete. The bridge is a reinforced concrete arch structure consisting of one 90-foot arch and two 40-foot arches. The total length of the bridge is nearly 300 feet and a width of street of 70 feet is provided for. The bridge replaces an old stone bridge, which was built in 1811, the roadway of which was too narrow for modern traffic. Plans are now being prepared for the bridge approaches, which will be improved from Rowland Avenue to Holme Circle. It is planned that the work will start as early as possible in the spring. The new road will be widened to its full width of 70 feet and all heavy grades will be eliminated so as to better accommodate the heavy traffic, which the road will have to carry.

OLNEY AVENUE BRIDGE OVER P. N. & N. Y. RAILROAD: Construction was begun on the Olney Avenue Bridge on April 17, 1930, and at the end of the year was 90% completed. The bridge is a concrete-encased steel plate girder bridge. It will open Olney Avenue from Front Street to Rising Sun Avenue and will make possible the construction of a street car feeder line from the northeast down Rising Sun Avenue and west on Olney Avenue to the subway terminal at Broad Street and Olney Avenue. The steel work of this bridge is interesting on account of the unusual size of the main plate girders. These girders are 132 feet long, over 13 feet high, and each girder weighs approximately 160 tons. They are the heaviest girders that have been placed in Philadelphia, and so far as can be learned, they are the heaviest simple span plate girders which have ever been made. This bridge is being built at the joint expense of the City and the Reading Company, the City paying 69.8% and the Reading paying 30.2%.

Plans have been completed for the grading and paving of the road from Front Street to Rising Sun Avenue, and construction will begin early in 1931.

RISING SUN AVENUE AND BRISTOL STREET OVER THE PHILADELPHIA, NEWTOWN AND NEW YORK RAILROAD: Construction of the Rising Sun Avenue and Bristol Street Bridge was begun on December 1, 1930, and at the end of the year was 7% completed. This bridge replaces an old bridge with masonry abutments and timber floor, which had become obsolete. The new construction will make possible the opening of Rising Sun Avenue to its full width of 70 feet. It will also improve conditions on Second Street, which rises on a steep grade from the level of the railroad to meet Rising Sun Avenue and Bristol Street at their intersection. In order to maintain reasonable grades on Bristol Street and on Second Street, the project includes the lowering of the railroad tracks. The City and Railroad are undertaking this work jointly. The total cost will be about \$150,000., of which the City pays 2/7 and the Railroad pays 5/7.

56TH STREET BRIDGE UNDER CHESTER BRANCH OF THE READING COMPANY: Construction of the 56th Street Bridge was begun on July 21st and at the end of the year the work was 94% completed. The bridge is a through plate girder type. The abutments are of concrete. The construction will make possible the opening of 70th Street from Lindbergh Avenue south to the Schuylkill River. The total cost of construction will be \$40,000., which figure also includes considerable work on the road. The Railroad and City share equally the cost of the bridge.

MASCHER STREET BRIDGE OVER THE RICHMOND BRANCH OF THE READING COMPANY: The Mascher Street Bridge was begun December 1, 1930, and at the end of the year was 12% complete. This bridge is of steel plate girder type encased in concrete. It will open Mascher Street to its width of 60 feet across the railroad tracks. The cost of the bridge will be approximately \$97,000., of which the City pays 67 1/2% and the Railroad pays 32 1/2%.

"B" STREET BRIDGES UNDER THE CONNECTING RAILROAD AND THE PHILADELPHIA AND BUSTLETON RAILROAD: Construction began on the "B" Street Bridges on August 4, 1930, and was 47% completed at the end of the year. The purpose of the construction of these bridges is to open "B" Street from Venango Street to Erie Avenue. The new roadway will pass under three branches of the Pennsylvania Railroad, -the Fairhill Branch, the Main Line of the Connecting Railroad and the Philadelphia and Bustleton Branch. The Pennsylvania Railroad will construct the Fairhill Branch at its own expense. The bridges under the Connecting Railway and the Philadelphia and Bustleton Railroad are being constructed jointly by the City and the Pennsylvania Railroad. The total cost will be about \$160,000. The Railroad will pay one-third of the cost

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on the Connecting Railway Bridge and one-half the cost on the Philadelphia and Bustleton Branch.

UNIVERSITY AVENUE BRIDGE AND APPROACHES: Two contracts were entered into on University Avenue Approaches between Grays Ferry Avenue and the Schuylkill River. A grading contract was begun July 13th and at the end of the year was 99% complete. The contract was also signed for the construction of a bridge to carry 34th Street over the Schuylkill River East Side Railroad. This bridge is being built jointly by the City and the Baltimore & Ohio Railroad, each paying one-half of the cost.

Plans for the bridge which will carry University Avenue under the Pennsylvania Railroad tracks have been presented to the Art Jury and can be completed promptly upon approval of the architectural details. Construction of the foundations for this bridge will begin very shortly after the first of the new year.

Plans were completed and await placing under contract for the bridge on the line of 70th Street over the Philadelphia, Baltimore and Washington Railroad and East Logan Street at the Germantown and Chestnut Hill Branch of the Reading Company.

Designing is in progress for the following structures:

Kingsessing Avenue over the Octoraro Branch of the Philadelphia, Baltimore and Washington Railroad;
Walnut Lane over Lincoln Drive;
Ashburner Street over the Philadelphia and Trenton Railroad;
Summerdale Avenue under Philadelphia and Frankford Railroad;
Convent Lane over Philadelphia and Trenton Railroad;
City Line over the Schuylkill Division of the Pennsylvania Railroad.

ABOLITION OF GRADE CROSSINGS

The various projects in connection with the railroads entering Philadelphia and comprised under the following classifications required the expenditure and the inclusion in contracts of the sum of \$7,354,838.35.

SOUTH PHILADELPHIA TRACK ELEVATION: The running and yard tracks of the Pennsylvania and Baltimore & Ohio Companies from Passyunk Avenue to League Island Park and between 24th and 26th Streets were raised to new grades. The curbing and paving of 25th Street from Ellsworth to Mifflin Streets was completed and work is proceeding on the construction of sewer and water mains in 25th Street between McKean Parkway and Passyunk Avenue. The value of work completed and contracted for was \$1,406,580.87.

PENNSYLVANIA TERMINAL IMPROVEMENT: Work eastward from the Schuylkill River proceeded throughout the year and had advanced to a stage that permitted the subway and station at 16th Street to be placed in service on September 28, 1930.

Westward from the Schuylkill River, work is proceeding as permitted by the progress of railroad operations. The construction of the river bulkhead proceeded to the point where interference with the ash handling wharf resulted and work was suspended, pending the removal of this activity of the City to another location.

The improvement of Chestnut Street between 30th Street and the River, together

with 30th Street from Market Street to Walnut Street, is about 85% completed. All property along the west river bank required for the opening of the River Drive and Schuylkill Avenue West has been acquired, with the exception of a plot between Market and Chestnut Streets, adjoining the site of the new Post Office.

Projects were completed, or contracted for, to the sum of \$4,624,636.56.

MANAYUNK ELEVATED: The agreement between the City and the Reading Company for the elimination of grade crossings between Wissahickon Creek and Fountain Street has been carried out. Regular train schedules were established over the elevated structure on March 7, 1930, and only 4% of work involved remained uncompleted at the close of 1930.

Expenditures were made or funds allotted to contract work to a total of \$1,313,567.

GERMANTOWN AND CHESTNUT HILL ELEVATED: Substantial progress has been made in the Chestnut Hill section. Grade crossings at Willow Grove Avenue and Mermaid Lane were eliminated and the completion of the street improvement is near. The use of the elevated tracks began December 14, 1930.

Surveys and field work on the Germantown section of this improvement have been completed and will permit a prompt beginning on this portion of the project as soon as funds may be provided.

PENNSYLVANIA AVENUE IMPROVEMENT: In accordance with the authorization of City Council for the opening and improving of Pennsylvania Avenue between 26th Street and Girard Avenue, an agreement was entered into with the Reading Company on November 26, 1930, covering the proposed construction in connection with the tracks of that company.

Plans and specifications for the physical improvement have been completed for the section between 26th and 27th Streets and placing under contract is expected in the near future.

BALTIMORE & OHIO TERMINAL IMPROVEMENT: No definite progress on this improvement was made toward construction work during the year on this improvement.

ELIMINATION OF GRADE CROSSINGS ON THE NEWTOWN BRANCH: This project requires further legislation by Council and no work has been done.

DRAINAGE

From funds available, contracts were entered into for fifteen main sewers, and these in connection with work proceeding on contracts carried over from the former year, required the expenditure of a sum totalling \$1,644,106.35. Contracts were also entered into for one hundred eighty-one branch sewers and the money involved in this class of construction was \$1,052,512.30.

Work was completed on 4.88 miles of main sewers and on 22.28 miles of branch sewers.

In addition to the contracts above mentioned, five miles were built at private cost and with the drainage structures built in connection with the work of eliminating grade crossings and the sewage treatment project, added a total of 34.58 miles to the drainage system of the City.

At the end of 1930, there was a total mileage of 1762.58 miles comprised in the sewer system of the City of Philadelphia.

Main sewer contracts entered into prior to 1930 and completed during that year were as follows:

HARTEL STREET from Bradford Street to Glendale Avenue and in Glendale Avenue from Hartel Street to Horrocks Street: This is a reinforced concrete sewer, 12' X 12', and was completed to a total length of 715 feet.

HEGERMAN STREET from the present sewer southwest of Robbins Street to Robbins Street and in Robbins Street from Hegerman Street to northwest of Torresdale Avenue: This is a reinforced concrete sewer, 10' X 10', becoming an 8' X 8' reinforced concrete sewer, 31 feet being constructed.

LITTLE TACONY CREEK SEWER from southwest of Lewis Street to Frankford Creek: A reinforced concrete sewer 8'6" X 9'6" with a length of 511 feet.

WISSAHICKON HIGH LEVEL CUT-OFF SEWER in Stokley Street and in Fairmount Park from the present terminus northwest of Coulter Street to a point about 1060 feet northwest of School House Lane. This is a 6'0" diameter sewer, constructed entirely in rock tunnel and is at a depth of approximately 200 feet below the surface of the ground. Total length 1966 feet.

The following main sewers were placed under contract and completed in 1930:

BROUS STREET between Tyson Street and St. Vincent Street. A 4'0" diameter brick sewer with a length of 1342 feet.

HAMMOND STREET between Champlott and Olney Avenues: Was constructed to a length of 2931 feet of various sizes in brick construction.

HOYT STREET from Delaware River to Delaware Avenue, in Delaware Avenue from Hoyt Street to Pattison Avenue and in Pattison Avenue between Delaware Avenue and Swanson Street: This sewer consisted of 1453 feet of two 7' X 9' and two 7' X 10' reinforced concrete stormwater and effluent conduits, quadruple section on piles, also 987 feet of two 7' X 9' reinforced concrete stormwater conduits, twin sections on piles. The two 7' X 10' effluent conduits are a portion of the drainage unit in connection with the comprehensive sewage disposal plan and were built at this time to allow railroad development to proceed in accordance with the South Philadelphia Agreement with the railroads.

An additional contract was entered into with the Pennsylvania Railroad Company for the removal of the wood preserving plant, which was situated on the site of the sewer development.

PASSYUNK AVENUE from 67th Street to 67th Street, in 67th Street from Passyunk Avenue to Eastwick Avenue and in Eastwick Avenue from 67th Street to the present sewer northeast of 67th Street: This is an 8' X 11' reinforced concrete sewer, twin section, part of which crosses under the Reading Railway. Small sections of 10' X 10' reinforced concrete sewer and 7' X 10' reinforced concrete sewer were also

completed, all sizes amounting to 434 feet.

73RD STREET AND MORRIS PARK between Lebanon Avenue and City Avenue. This is a 24" vitrified pipe, 3331 feet in length.

TABOR STREET from Tacony Creek to Marwood Road: A 3'0" diameter brick sewer, and other sizes, with a length of 672 feet.

Contracts were entered into for the following sewers and the work is still proceeding:

CASTOR AVENUE between Aramingo and Frankford Avenues: This is a reinforced concrete sewer, 7' X 8' becoming a 7' X 6'6" reinforced concrete sewer, and was constructed to a length of 2547 feet.

GLENDALE AVENUE between Horrocks Street and Castor Avenue: A 12' X 12' reinforced concrete stormwater sewer, with two 24" vitrified pipe sewage conduits and a length of 1538 feet.

GORGAS LANE from east of Henry Avenue to Lawnton Avenue: This is a 6'6" diameter reinforced concrete sewer with a 15" vitrified pipe becoming a 3'6" diameter reinforced concrete sewer with a 15" vitrified pipe, the length constructed being 1604 feet.

HORROCKS STREET between Glendale Avenue and Bustleton Avenue: A reinforced concrete stormwater sewer, 6' X 4' with a 15" vitrified pipe sewage conduit becoming a 5' X 4' reinforced concrete stormwater sewer with a 15" vitrified pipe sewage conduit, and was constructed to a length of 2308 feet.

MAIN RELIEF SEWER THROUGH FAIRMOUNT PARK from Schuylkill River to Fairmount Avenue and in Fairmount Avenue between Fairmount Park and 23rd Street. This contract is the first of a project to relieve the overcharging of the Cohocksink and Somerset sewer systems by diverting the stormwater flow. When it reaches a point near the Aquarium in Fairmount Park, it branches into three outlets of varying sizes of which the following portions were built this year: 8' X 8' reinforced concrete and 7' X 7' reinforced concrete sewer for a length of 426 feet.

ROOSEVELT BOULEVARD from northeast of Tyson Avenue to Princeton Avenue, and in Princeton Avenue from Roosevelt Boulevard to Calvert Street, in Calvert Street from Princeton Avenue to St. Vincent Street and in St. Vincent Street from Calvert Street to Bustleton Avenue: An 8' X 7' reinforced concrete sewer, 693 feet being completed.

WISSAHICKON LOW LEVEL COLLECTING SEWER through Fairmount Park between the present terminus north of Township Line Road to Perkiomen Turnpike: This is a 27" vitrified pipe, 1887 feet in length.

WISSAHICKON HIGH LEVEL CUT-OFF SEWER in Stokley Street and in Fairmount Park from the present terminus northwest of School House Lane to the Wissahickon High Level Sewer: A 6' diameter brick sewer in tunnel becoming a 5' diameter brick sewer in open cut and including syphon pipes under Cresheim Creek was constructed to a length of 397 feet. This contract when finished will complete the diversion of the Wissahickon High Level Sewer, draining from the present discharge point into the Schuylkill River below Fairmount Dam to the Delaware River.

MINGO CREEK PUMPING STATION: Mingo Creek Pumping Station is a stormwater pumping station serving the lowlands of the 40th Ward. It is located on the west bank of the Schuylkill River, north of Penrose Ferry Road, and contains two horizontal centrifugal pumps of a combined capacity of 60,000,000 gallons per day, operated by horizontal steam engines with power provided by two 150 HP boilers, using oil fuel.

On Sunday, May 25th, 1930, a heavy wind caused the wrecking of the metal stakes of this pumping station. These were replaced at a cost of \$1262. The operation of this station required a total expenditure of \$17,869.96, of which the expenditure for fuel oil was \$6243.10. This was a reduction in cost from former years and was due entirely to the extraordinarily dry season, which was universal throughout the country.

To improve drainage conditions on the property of the United States Government, used as a Rifle Range, a contract was entered into for the construction of a sluice gate in the Darby Creek bank near the Delaware County Line. This work is 45% completed and the contract limit is \$5,000.

SEWAGE TREATMENT PROJECT

SOUTHWEST SECTION. The Southwest Sewage Pumping Station placed in service in 1927, continued to operate throughout the year for about two hours daily. On the night of August 23, 1930, an electrical storm damaged the transformer station serving the electric pumping equipment in this building. The necessary repair work was performed at a cost of \$379.

An extension of the 30th Street and Island Avenue Collecting Sewer was completed from Erwig Avenue to a point in 75th Street, 30' southeast of Wheeler Street, at a cost of \$254,981.87.

Plans are in progress for the outfall conduits from the future Southwest Treatment Works to the Delaware River and also for the main gravity collecting sewer conveying the sewage to the treatment works from the City lying to the northward.

Plans are proceeding for the Schuylkill River Intercepting System with the necessary river crossings and pumping stations.

SOUTHEAST SECTION. The outfall conduit from the future Southeast Sewage Treatment Works to the Delaware River was completed during the year in connection with the contract for the Hoyt Street Main Sewer. This structure consisted of four barrels of which two were for the discharge from the Treatment Works and two comprised the Hoyt Street Stormwater Sewer.

No further work is proceeding at this locality.

NORTHEAST SECTION. The Northeast Sewage Treatment Works, consisting of 32 Imhoff tanks, with a designed capacity of 60,000,000 gallons per day on a detention period of three hours continued in satisfactory operation.

At Frankford Creek Grit Chamber, the total sewage flow passing that point of 11,917,000,000 gallons, deposited 14,676 cubic feet of wet screenings and 34,655 cubic feet of wet grit; 2,126 cubic feet of grease was intercepted.

On July 16, 1930, the recently completed Upper Delaware Collecting Sewer and the Sewage Pumping Station were placed in service and resulted in the lifting of the restrictions against an increase of sanitary flows into the Delaware River north of Magee Street, which was concurred in by the Sanitary Water Board on October 22, 1930. This restriction had been in effect since March 27, 1928, and seriously hampered building development in the Northeast Section.

The Sewage Collector is now completed from the Northeast Works to Pennypack Creek.

The total sewage flow passing the Northeast Works amounted to 12,835,000,000 gallons and produced 18,101 cubic yards of wet, digested sludge.

On September 3, 1930, the discharge of the Pennypack Sewage Pumping Station was connected to the Upper Delaware Collecting Sewer and delivered to the Northeast Treatment Works. This permitted the abandonment of the Pennypack Sewage Treatment Works, which had been in continuous operation since December 1, 1912. The land occupied by these Works was returned to the custody of the Bureau of Water as of December 31, 1930.

On December 13, 1930, a branch of the Upper Delaware Collecting Sewer was completed, which permitted drainage by gravity from this entire section and the Pennypack Sewage Pumping Station was abandoned.

Construction expenditures during the year 1930 were to the amount of \$2,361,742.84 and were comprised in the following items:

CONTRACTS CARRIED FORWARD FROM 1929 AND COMPLETED 1930

Interceptor connections to the Upper Delaware Collecting Sewer	
At Dark Run Lane.	\$ 2,452.74
" Magee Street	31,848.46
" Bridge Street.	8,905.30
" Cottman Street	44,708.62
" Orthodox Street (second contract).	32,032.47
" Vandike Street	4,119.89
\$ 124,067.48
Northeast Low Level Grit Chamber, Mechanical Equipment.....	120,094.00
Northeast Sewage Works, Electricity service.....	1,300.00
Upper Frankford Creek Low Level Collecting Sewer in Luzerne Street, Aramingo Avenue and along Frankford Creek to 320 ft. SE of Frankford Avenue.....	274,999.28
Tacony Creek Intercepting Sewer Extensions between Whitaker Avenue and Ruscomb Street.....	6,140.91
Grading, Paving, Etc., Wheatsheaf Lane from present paving to Delaware River.....	213,730.61

CONTRACTS AWARDED 1930 AND COMPLETED 1930

Tacony Creek Interceptor connection at Roosevelt
Boulevard.....\$8,482.96
County Prison Intercepting Sewer along Pennypack
Creek, State Road to Torresdale Avenue:
1st Contract.....26,995.25
2nd Contract..... 3,079.94

CONTRACTS AWARDED 1930 BUT NOT COMPLETED

	<u>% Complete</u>
Upper Delaware Collecting Sewer in City Property and State Road from Holmesburg Avenue to Ashburner Street; Amount of Contract \$215,000.....	77%
Lower Frankford Creek Low Level Collecting Sewer in Lefevre Street from Upper Delaware Collect- ing Sewer to Frankford Creek and Adams Avenue, and to Bridge Street; Amount of Contract \$650,000.	44%
Grading, Planting and Improvement of Grounds, North- east Sewage Works; Amount of Contract \$20,000.....	95%
Upper Frankford Creek Low Level Collecting Sewer along Frankford Creek, SE of Frankford Ave- nue to Wyoming Avenue; Amount of Contract \$125,000. Not started	

DRAINAGE PERMIT DIVISION

The permits for connections with the drainage system numbered 1214, comprising 3621 individual connections. Sewer records were increased by the filing of 178 plans and diaries of work constructed during the year.

TESTING LABORATORY

The work of the Testing Laboratory comprised tests and reports on 12,494 samples submitted from the various bureaus and departments of the City. These samples covered a wide range of materials, which were derived not only from construction contracts but from supplies purchased in the various maintenance operations of the City government. In most cases, this work required inspection and collection service in addition to the tests made.

OFFICIAL PHOTOGRAPHER

The work of this Division required the making of photographic negatives to the number of 3,353 from which 8,111 prints were made. Blueprinting was done for the various departments and bureaus, requiring the use of 322,110 square feet of blueprint paper.

MAIN SEWERS

Locs	Appropriations	Authorization	Amount Available	Locs Item
December 15, 1919	December 23, 1919	April 12, 1920	1 3,955.84	230
October 1, 1920	February 17, 1921	December 30, 1927	2,746.86	261
October 10, 1923	January 24, 1924	February 7, 1924	1,997.85	303
September 22, 1924	December 12, 1924	February 17, 1925	69,079.51	320
		December 3, 1925		
June 22, 1925	October 2, 1925	July 5, 1928	65,288.08	360
		February 16, 1929		
		March 1, 1930		
		July 21, 1926		
		May 17, 1927		
April 10, 1926	June 12, 1926	December 30, 1927	451,574.95	383
		March 1, 1930		
May 23, 1927	June 13, 1927	July 6, 1927	12,381.90	420
		June 12, 1928		
		July 5, 1928		
March 21, 1928	May 17, 1928	February 15, 1929	1,217,659.85	443
		February 18, 1929		
		March 1, 1930		
July 8, 1929	October 26, 1929.	January 16, 1930	800,000.00	466
		July 14, 1930		
Available January 1, 1930			2,634,684.84	
Placed under contract		1,408,500.00		
Expended for inspection, bills, etc.		95,466.77		
Charged off		1,503,966.77		
Reduction by recredits		90,450.49		
Cash cost		1,413,516.28		
Assessment bills		31,789.65	1,413,516.28	
Total cost of main sewers		1,445,305.93		
Balance				
Reserved				
Available balance				
			1,221,168.56	
			151,168.56	
			1,070,000.00	

BRANCH SEWERS

Loans	Appropriations	Authorization	Amount Available	Loan Item
March 21, 1928	May 17, 1928	Various	51,355.25	444
July 8, 1929	October 26, 1929	Various	1,500,000.00	467
Available January 1, 1930			1,551,355.25	
Placed under contract		1,194,800.00		
Expended for inspection, bills, etc		72,170.34		
Charged off		1,266,970.34		
Reduction by contract recredits		221,198.04		
Cash cost		1,045,772.30		
Assessment bills		631,122.33		
Total cost of branch sewers		1,676,894.63		
Balance			505,582.95	
Reserved for inspection and salaries		152,682.95		
Reserved for work awarded and bids received		57,800.00		
Reserved for Highway Bureau requests		50,000.00	260,482.95	
Available balance			245,100.00	
Remaining from Councilmen's 1930 allotment			125,100.00	
Available for a future allotment			120,000.00	

SEWAGE DISPOSAL

Loans	Appropriations	Authorization	Amount	Available	Loan Items
October 1, 1920	February 17, 1921	April 27, 1921		326.52	264
October 5, 1923	January 24, 1924	June 15, 1925	50,670.80		300
April 10, 1926	June 12, 1926	February 21, 1927	47,358.78		386
March 21, 1928	May 17, 1928	July 5, 1928	1,447,977.95		442
July 8, 1929	October 26, 1929	December 30, 1929	3,000,000.00		462
Available January 1, 1930			4,546,334.05		
Placed under contract		1,496,600.00			
Expenditures, bills, etc.		<u>103,546.59</u>			
		1,600,146.59			
Reductions by contract recredits		<u>56,374.25</u>			
Cash cost		1,543,772.34		1,543,772.34	
Balance				<u>3,002,561.71</u>	
Reserved				<u>202,561.71</u>	
Available balance				2,800,000.00	

NEW SEWERS IN PLACE OF OLD SEWERS

Loans	Appropriations	Authorization	Amount	Available	Loan Items
June 22, 1925	October 2, 1925	February 15, 1926	55,668.18		362
July 8, 1929	October 26, 1929	{ July 14, 1930 } October 27, 1930	700,000.00		469
Available January 1, 1930			755,668.18		
Placed under contract		43,700.00			
Expenditures, bills, etc.		<u>- - - -</u>			
		43,700.00			
Reduction by contract recredits		<u>213.00</u>			
Cash cost		43,487.00		43,487.00	
Balance				<u>712,181.18</u>	
Reserved					
Available balance					

REGISTRY DIVISION

1 9 3 0

Detailed Summary

Transfers plotted	59126
Original lots plotted	4453
Certificates of registered owners issued to public	59
" " " " " Law Dep't.	1745
Plan Books examined by the public	148190
" " " " City and County officials	19664
Descriptions filed	64761
" " from 1865 to 1930 (inclusive)	2565009
Certificates of street openings and City Plan information issued to various Bureaus	1572
Miscellaneous plans drawn for various Bureaus and Dept's.	121
Affidavits of street openings filed	25
Streets opened by affidavits	18
Titles examined for plan book entries	5847
City Plans ordered to be prepared	61
Number of Jury Plans ordered	52
" " " " filed.	41
" " approved street railway plans filed	31
" " confirmed City plans filed	64
" " ordinances for placing streets on City Plan, &c.	45
" " street opening agreements filed	21
" " " " by ordinance filed	31
" " deeds of dedication filed	91
" " " " recorded	91
" " miles of streets dedicated 50 ft. in width	1.8
" " " " " 60 ft. in width or over	3.0
" " " " " 40 to 50 ft. in width	0.4
" " releases of abutting owners prepared in Reg. Div.	0
" " " " " filed.	4
" " " " " recorded	5
" " new registry plan pages	72
Cost of recording deeds and releases	\$359.75

89-1930